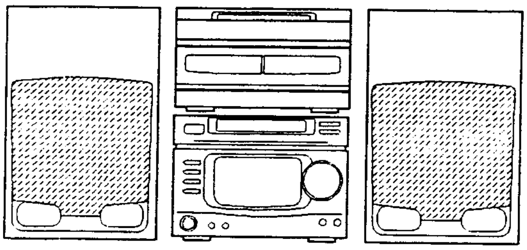
aiwa

aiwa SERVICE

# NSX-D757
# NSX-D757R
# NSX-D656R



STEREO SYSTEM

- BASIC TAPE MECHANISM: 2ZM-3 PR1N
- BASIC CD MECHANISM: 4ZG-1SDFR
- TYPE: HE.HK.HR.LH.U(757)<br>K.EE.EZ(757R) EZ(656R)

SERVICE MANUAL

## REVISION PUBLISHING

- This Service Manual is the "Revision Publishing" and replaces "Simple Manual" (S/M Code No. 09-956-108-30T).

- If requiring information about the CD mechanism, see Service Manual of 4ZG-1S. (S/M Code No. 09-955-104-70T)

*MC-Service*

| SYSTEM | AMPLIFIER TUNER | CASSETTE DECK CD PLAYER | REMOTE CONTROLLER | SPEAKERS |
|---|---|---|---|---|
| NSX-D757 | RX-N757 | FD-N757 | RC-TN506 | SX-N757 |
| NSX-D757R | RX-N757R | FD-N757 | RC-TN506 | SX-N757 |
| NSX-D656R | RX-N656R | FD-N757 | RC-TN501 | SX-N757 |

**Lfd.Nr. 1583 (incl. Lfd.Nr. V12677)**

S/M Code No. 09-956-108-40T

# TABLE OF CONTENTS

SPECIFICATIONS ........ 3,4
ACCESSORIES / PACKAGE LIST ........ 5

## MODEL-NO. SX-N757

DISASSEMBLY INSTRUCTIONS ........ 5
SPEAKER PARTS LIST ........ 5

## MODEL-NO. RX-N757

ELECTRICAL MAIN PARTS LIST ........ 6~10
CHIP RESISTOR PART CODE ........ 10
BLOCK DIAGRAM-1(TUNER:HE,HR,HK) ........ 11
BLOCK DIAGRAM-2(TUNER:LH,U) ........ 12
BLOCK DIAGRAM-3(TUNER:757R/656R) ........ 13
BLOCK DIAGRAM-4(VOLUME ) ........ 14
BLOCK DIAGRAM-5(MAIN) ........ 15,16
BLOCK DIAGRAM-6(PRO/DSP:757/757R MODELS) ........ 17,18
WIRING-1(MAIN:757 HE,HR,HK) ........ 19,20
SCHEMATIC DIAGRAM-1(MAIN:757 HE,HR,HK) ........ 21~23
SCHEMATIC DIAGRAM-2(MAIN:757 LH,U) ........ 24~26
WIRING-2(MAIN:757 LH,U) ........ 27,28
WIRING-3(MAIN:757R) ........ 29,30
SCHEMATIC DIAGRAM-3(MAIN:757R) ........ 31~33
SCHEMATIC DIAGRAM-4(MAIN:656R) ........ 34~36
WIRING-4(MAIN:656R) ........ 37,38
WIRING-5(FRONT) ........ 39,40
SCHEMATIC DIAGRAM-5(FRONT) ........ 41~43
WIRING-6(SW/POWER/VOLUME) ........ 44~46
SCHEMATIC DIAGRAM-6(VOLUME) ........ 47,48
WIRING-7(PRO/DSP) ........ 49,50
SCHEMATIC DIAGRAM-7(PRO/DSP) ........ 51,52
IC BLOCK DIAGRAM ........ 53~56
IC DESCRIPTION ........ 57,58
FL GRID ASSIGNMENT/ANODE CONNECTION ........ 59
ELECTRICAL ADJUSTMENT(TUNER) ........ 60~63
PRACTICAL SERVICE FIGURE(TUNER) ........ 64
TRANSISTOR ILLUSTRATION ........ 64
MECHANICAL EXPLODED VIEW 1/1 ........ 65,66
MECHANICAL PARTS LIST 1/1 ........ 67

## MODEL-NO. FD-N757

ELECTRICAL MAIN PARTS LIST ........ 68,69
CHIP RESISTOR PART CODE ........ 69
IC DESCRIPTION ........ 70
BLOCK DIAGRAM-1 ........ 71,72
WIRING-1(MAIN) ........ 73,74
SCHEMATIC DIAGRAM-1(MAIN) ........ 75,76
ELECTRICAL ADJUSTMENT(CD) ........ 77~79
ELECTRICAL ADJUSTMENT(TAPE) ........ 80,81
PRACTICAL SERVICE FIGURE(TAPE) ........ 81
TRANSISTOR ILLUSTRATION ........ 82
IC BLOCK DIAGRAM ........ 82
MECHANICAL EXPLODED VIEW 1/1 ........ 83,84
MECHANICAL PARTS LIST 1/1 ........ 85
TAPE MECHANISM EXPLODED VIEW 1/1 ........ 86,87
TAPE MECHANISM PARTS LIST 1/1 ........ 88
SPRING APPLICATION POSITION ........ 89
REFERENCE NAME LIST ........ 90

# SPECIFICATIONS

## STEREO RECEIVER RX-N757/N760G

### FM tuner section

| | |
|---|---|
| **Tuning range** | 87.5 MHz to 108 MHz |
| **Usable sensitivity(IHF)** | 13.2 dBf |
| **Antenna terminals** | 75 ohms (unbalanced) |

### MW (AM) tuner section

| | |
|---|---|
| **Tuning range** | 531 kHz to 1602 kHz (9 kHz step)<br>530 kHz to 1710 kHz (10 kHz step) |
| **Usable sensitivity** | 350 µV/m |
| **Antenna** | Loop antenna |

### (HE, HR, HK MODELS)

**SW tuner section**

| | |
|---|---|
| **Tuning range** | SW 1: 3.20 MHz to 7.30 MHz<br>SW 2: 9.50 MHz to 21.85 MHz |
| **Antenna** | Wire antenna |

### Amplifier section

| | |
|---|---|
| **Power output** | HE, HK:<br>Front (without connecting to the SURROUND SPEAKERS)<br>60 W + 60 W (6 ohms, T.H.D. 10 %, 1 kHz)<br>Rear:<br>10 W + 10 W (16 ohms, T.H.D. 10%, 1 kHz)<br>Center:<br>20 W (8 ohms, T.H.D. 10%, 1 kHz)<br>HR:<br>Front: (without connecting to the SURROUND SPEAKERS)<br>Rated 50 W + 50 W (6 ohms, T.H.D. 1%, 1 kHz)<br>Reference 60 W + 60 W (6 ohms, T.H.D. 10%, 1 kHz)<br>Rear:<br>Rated 7.5 W + 7.5 W (16 ohms, T.H.D. 1%, 1 kHz)<br>Reference 10 W + 10 W (16 ohms, T.H.D. 10%, 1 kHz)<br>Center:<br>Rated 15 W (8 ohms, T.H.D. 1%, 1 kHz)<br>Reference 20 W (8 ohms, T.H.D. 10%, 1 kHz)<br>**U model**<br>FTC RULE<br>Front:<br>50 watts per channel minimum RMS, both channels driven, at 6 ohms<br>Rear:<br>7.5 watts per channel minimum RMS, both channel driven, at 16 ohms<br>Center:<br>15 watts minimum RMS at 16 ohms<br>From 50 Hz to 12000 Hz with no more than 1 % total harmonic distortion<br>**LH model**<br>Front (without connecting to the SURROUND SPEAKERS):<br>60 W + 60 W (6 ohms, T.H.D. 10 %, 1 kHz)<br>Rear:<br>10 W + 10 W (16 ohms, T.H.D. 10 %, 1 kHz)<br>Center:<br>20 W (8 ohms, T.H.D. 10 %, 1 kHz) |
| **Total harmonic distortion** | 0.1 % (30 W, 1 kHz, 6 ohms) |
| **Inputs** | VIDEO/AUX: 300 mV (adjustable)<br>MIC 1, MIC 2: 1 mV (10 kohms) |
| **Outputs** | LINE OUT: 300 mV<br>SUPER WOOFER: 1.7 V<br>SPEAKERS: accepts speakers of 6 ohms or more<br>SURROUND SPEAKERS: accepts speakers of 16 ohms or more<br>PHONES (stereo jack): accepts headphones of 32 ohms or more |

## COMPACT DISC/STEREO CASSETTE DECK FD-N757/N757R

### <Cassette deck section>

| | |
|---|---|
| **Track format** | 4 tracks, 2 channels stereo |
| **Frequency response** | $CrO_2$ tape: 50 Hz – 16000 Hz<br>Normal tape: 50 Hz – 15000 Hz |
| **Signal-to-noise ratio** | 60 dB (Dolby B NR ON, $CrO_2$ tape peak level) |
| **Recording system** | AC bias |
| **Heads** | DECK 1: Playback head × 1<br>DECK 2: Recording/playback/erase head × 1 |

### <Compact disc player section>

| | |
|---|---|
| **Laser** | Semiconductor laser ($\lambda = 780$ nm) |
| **D-A converter** | 1 bit dual |
| **Signal-to-noise ratio** | 85 dB (1 kHz, 0 dB) |
| **Harmonic distortion** | 0.03 % (1 kHz, 0 dB) |
| **Wow and flutter** | Unmeasurable |

## SPEAKER SYSTEM SX-N757

| | |
|---|---|
| **Cabinet type** | 3 way, bass reflex with surround speaker (Magnetism sealed type) |
| **Speaker** | Woofer:<br>140 mm ($5\frac{5}{8}$ in.) cone type<br>Tweeter:<br>60 mm ($2\frac{3}{8}$ in.) cone type<br>Super tweeter:<br>20 mm ($\frac{13}{16}$ in.) ceramic type |
| **Impedance** | 6 ohms |
| **Output sound pressure level** | 87 dB/W/m |
| **Dimensions (W × H × D)** | 220 × 360 × 265 mm ($8\frac{3}{4} \times 14\frac{1}{4} \times 10\frac{1}{2}$ in.) |
| **Weight** | 3.5 kg (7 lbs 11 oz.) |

## GENERAL

| | |
|---|---|
| **Power requirements** | HE, HR, HK:<br>120/220-230/240 V AC, switchable 50/60 Hz<br>U: 120 V AC, 60 Hz<br>LH: 120 V/220-230 V/240 V AC, switchable 50/60 Hz |
| **Power consumption** | HE, HR, HK:<br>105 W (System total 120 W)<br>U: 85 W (System total 100 W)<br>LH: 105 W (System total 120 W) |
| **Dimensions of main unit (W × H × D)** | RX-N757: 260 × 180 × 341.7 mm ($10\frac{1}{4} \times 7\frac{1}{8} \times 13\frac{1}{2}$ in.)<br>FD-N757: 260 × 182.5 × 328.5 mm ($10\frac{1}{4} \times 7\frac{1}{4} \times 13$ in.) |
| **Weight of main unit** | RX-N757: 5.6 kg (12 lbs 6 oz)<br>FD-N757: 3.8 kg (8 lbs 6 oz) |

- Design and specifications are subject to change without notice.
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
  "DOLBY" and the double-D symbol ▯▯ and "PRO LOGIC" are trademarks of Dolby Laboratories Licensing Corporation.
  Laboratories Licensing Corporation.
- The word "BBE" and the "BBE symbol" are trademarks of BBE Sound, Inc.
  Under license from BBE Sound, Inc.

## STEREO RECEIVER RX-N757R/656R

### FM tuner section

| | |
|---|---|
| **Tuning range** | 87.5 MHz to 108 MHz |
| **Usable sensitivity(IHF)** | EE, EZ, EEZ: 16.8 dBf<br>K: 16.2 dBf |
| **Antenna terminals** | 75 ohms (unbalanced) |

### MW tuner section

| | |
|---|---|
| **Tuning range** | 531 kHz to 1602 kHz (9 kHz step)<br>530 kHz to 1710 kHz (10 kHz step) |
| **Usable sensitivity** | 350 μV/m |
| **Antenna** | Loop antenna |

### LW tuner section

| | |
|---|---|
| **Tuning range** | 144 kHz to 290 kHz |
| **Usable sensitivity** | 1400 μV/m |
| **Antenna** | Loop antenna |

### RX-N757R MODEL

### Amplifier section

| | |
|---|---|
| **Power output** | Front: (without connecting to the SURROUND SPEAKERS)<br>Rated 50 W + 50 W<br>(6 ohms, T.H.D. 1 %, 1 kHz/DIN 45500)<br>Reference 60 W + 60 W<br>(6 ohms, T.H.D. 10 %, 1 kHz/DIN 45324)<br>DIN MUSIC POWER 105 W + 105 W<br>Rear:<br>Rated 7.5 W + 7.5 W<br>(16 ohms, T.H.D. 1 %, 1 kHz)<br>Reference 10 W + 10 W<br>(16 ohms, T.H.D. 10 % 1 kHz)<br>DIN MUSIC POWER<br>16 W + 16 W<br>Center:<br>Rated 15 W<br>(8 ohms, T.H.D. 1 %, 1 kHz)<br>Reference 20 W<br>(8 ohms, T.H.D. 10 %, 1 kHz)<br>DIN MUSIC POWER 32 W |
| **Total harmonic distortion** | 0.1 % (30 W, 1 kHz, 6 ohms) |
| **Inputs** | VIDEO/AUX: 300 mV (adjustable)<br>MIC 1, MIC 2: 1 mV (10 kohms) |
| **Outputs** | LINE OUT: 300 mV<br>SUPER WOOFER: 1.7 V<br>SPEAKERS: accepts speakers of 6 ohms or more<br>SURROUND SPEAKERS: accepts speakers of 16 ohms or more<br>PHONES (stereo jack): accepts headphones of 32 ohms or more |

### RX-N656R MODEL

### Amplifier section

| | |
|---|---|
| **Power output** | Rated 30 W + 30 W<br>(6 ohms, T.H.D. 1 %, 1 kHz/DIN 45500)<br>Reference 40 W + 40 W<br>(6 ohms, T.H.D. 10 %, 1 kHz/DIN 45324)<br>DIN MUSIC POWER 58 W + 58 W |
| **Total harmonic distortion** | 0.1 % (15 W, 1 kHz, 6 ohms) |
| **Inputs** | VIDEO/AUX: 300 mV (adjustable)<br>MIC 1, MIC 2: 1 mV (10 kohms) |
| **Outputs** | LINE OUT: 300 mV<br>SUPER WOOFER: 1.3 V<br>SPEAKERS: accepts speakers of 6 ohms or more<br>PHONES (stereo jack): accepts headphones of 32 ohms or more |

## COMPACT DISC/STEREO CASSETTE DECK FD-N757R/N757

### <Cassette deck section>

| | |
|---|---|
| **Track format** | 4 tracks, 2 channels stereo |
| **Frequency response** | $CrO_2$ tape: 50 Hz – 16000 Hz<br>Normal tape: 50 Hz – 15000 Hz |
| **Signal-to-noise ratio** | 60 dB (Dolby B NR ON, $CrO_2$ tape peak level) |
| **Recording system** | AC bias |
| **Heads** | DECK 1: Playback head × 1<br>DECK 2: Recording/playback/erase head × 1 |

### <Compact disc player section>

| | |
|---|---|
| **Laser** | Semiconductor laser ($\lambda$ = 780 nm) |
| **D-A converter** | 1 bit dual |
| **Signal-to-noise ratio** | 85 dB (1 kHz, 0 dB) |
| **Harmonic distortion** | 0.03 % (1 kHz, 0 dB) |
| **Wow and flutter** | Unmeasurable |

## SPEAKER SYSTEM SX-N757

| | |
|---|---|
| **Cabinet type** | 3 way, bass reflex with surround speaker (Magnetism sealed type) |
| **Speaker** | Woofer:<br>140 mm ($5^5/_8$ in.) cone type<br>Tweeter:<br>60 mm ($2^3/_8$ in.) cone type<br>Super tweeter:<br>20 mm ($^{13}/_{16}$ in.) ceramic type |
| **Impedance** | 6 ohms |
| **Output sound pressure level** | 87 dB/W/m |
| **Dimensions (W × H × D)** | 220 × 360 × 265 mm ($8^3/_4$ × $14^1/_4$ × $10^1/_2$ in.) |
| **Weight** | 3.5 kg (7 lbs 11 oz.) |

## GENERAL

| | |
|---|---|
| **Power requirements** | 230 V AC, 50 Hz |
| **Power consumption** | 757R: 365 W (System total 380 W)<br>656R: 125 W (System total 140 W) |
| **Dimensions of main unit (W × H × D)** | RX-N757R/N757:<br>260 × 180 × 341.7 mm<br>($10^1/_4$ × $7^1/_8$ × $13^1/_2$ in.)<br>FD-N757R/N656R:<br>260 × 182.5 × 328.5 mm<br>($10^1/_4$ × $7^1/_4$ × 13 in.) |
| **Weight of main unit** | RX-N757R: 5.6 kg (12 lbs 6 oz)<br>RX-N656R: 4.7 kg (10 lbs 6 oz)<br>FD-N757R/N757: 3.8 kg (8 lbs 6 oz) |

- Design and specifications are subject to change without notice.
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
  "DOLBY" and the double-D symbol DD and "PRO LOGIC" are trademarks of Dolby Laboratories Licensing Corporation.
  Laboratories Licensing Corporation.
- The word "BBE" and the "BBE symbol" are trademarks of BBE Sound, Inc.
  Under license from BBE Sound, Inc.

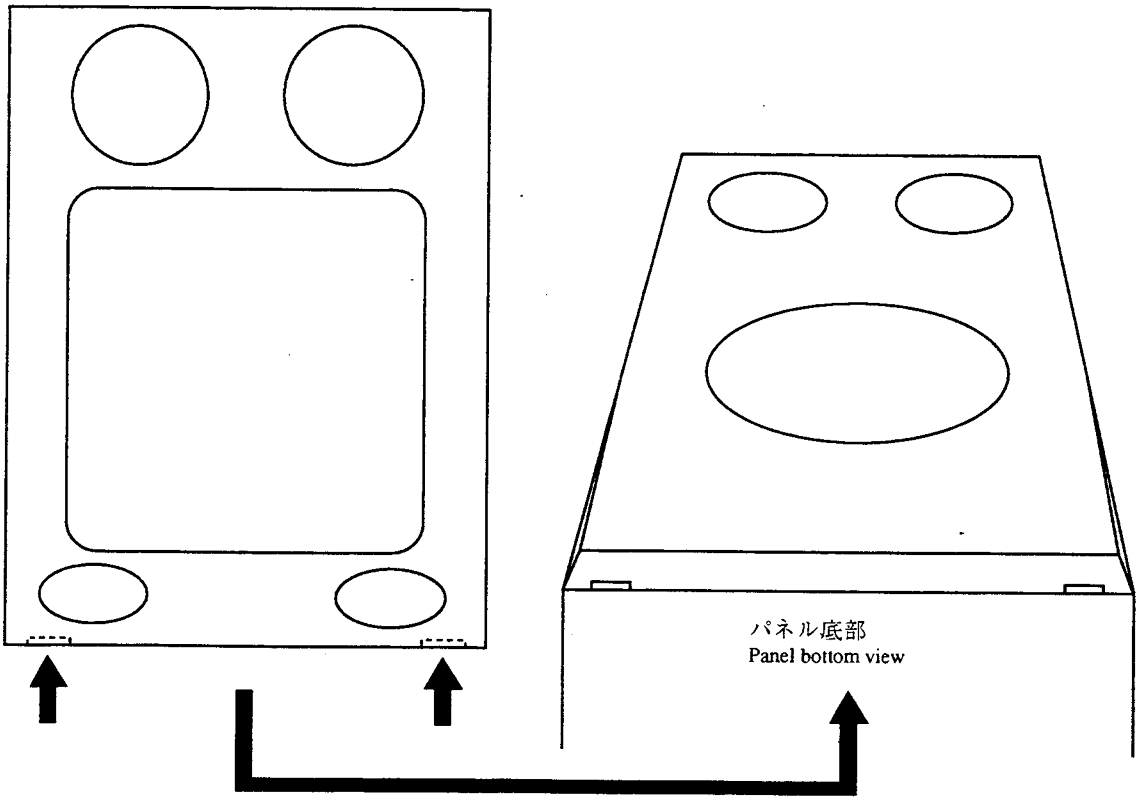
## ■ ACCESSORIES／PACKAGE LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

| REF. NO | PART NO. | ｶﾝﾘ NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 85-NT3-901-019 | | IB,H-ECA(S)<HE,HK,HR> |
| 1 | 85-NT3-902-019 | | IB,H-ESF(S)<LH,U> |
| 1 | 85-NT3-903-019 | | IB,E-ESF(S)<K,EE,EZ> |
| 1 | 85-NT3-904-019 | | IB,E-EGI(S)<EE,EZ> |
| 1 | 85-NT3-906-019 | | IB,E-ESF,656R(S)<656R> |
| 1 | 85-NT3-907-019 | | IB,E-EGI,656R(S)<656R> |
| 2 | 85-NF5-631-019 | | RC-T501<656R> |
| 2 | 85-NT3-661-019 | | RC-T506<EXCEPT 656R> |
| 3 | 87-006-225-019 | | AM LOOP ANT NC2<EXCEPT HE,HK,HR> |
| 3 | 87-006-240-019 | | AM LOOP ANT CON(KO)<HE,HK,HR> |
| 4 | 87-043-106-019 | | FM, WIRE ANT (Z)<656R,K,EE,EZ> |
| 4 | 87-043-115-01B | | ANT,FEEDER FM<HE,HK,HR,LH,U> |
| 5 | 87-043-095-019 | | ANTENNA WIRE<HE,HK,HR> |
| 6 | 87-099-789-019 | | PLUG,ADPTR IR44<HE,HR,LH> |

## DISASSEMBLY INSTRUCTIONS

矢印の位置にマイナスドライバーを差し込んで、パネルをはずして、各々のスピーカー・ユニットのビスを取り、スピーカー・ユニットをはずしてください。
Insert a flat - bladed screwdriver into the position indicated by the arrows and remove the panel.
Remove the screws of each speaker unit and then remove the speaker units.



## ■SPEAKER PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

| REF. NO | PART NO. | ｶﾝﾘ NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 85-NS3-001-010 | | GRILL FR. |
| 2 | 85-NS3-005-010 | | RING W. |
| 3 | 85-NS3-014-010 | | PANEL TW ASSY |
| 4 | 85-NS3-015-010 | | GRILL FRAME ASSY |
| 5 | 85-NS3-602-010 | | SPEAKER WOOFER |
| 6 | 85-NS3-604-010 | | SPEAKER TWEETER |
| 7 | 83-096-614-010 | | SPEAKER CORD |
| 8 | 83-149-611-010 | | TERMINAL |

MODEL NO.

# RX-N757/757R/656R

## ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| IC | | | |
| | 87-017-885-010 | | IC,NJM2177AF |
| | 87-017-787-010 | | IC,M62412P |
| | 87-001-607-089 | | IC,NJM4558M |
| | 87-017-022-089 | | IC,NJM2068M-D(T1) |
| | 87-002-272-089 | | IC,TC4052 BF |
| | 87-002-872-040 | | IC,MC 14053 BF |
| | 87-017-888-089 | | IC,NJM4558MD |
| | 87-020-966-019 | | IC,STK4142-MK2<656R> |
| | 87-020-982-019 | | IC,STK4162-MK2<K,EE,U,EZ> |
| | 87-001-903-019 | | STK-4172-2<HE,HK,HR,LH> |
| | 87-017-375-089 | | IC,TC4094BF |
| | 87-002-967-089 | | IC,BU4052 BF |
| | 87-070-205-019 | | IC,TC9299P |
| | 87-070-232-019 | | IC,BA3834S |
| | 87-017-449-010 | | IC,XR-1071CP<EXCEPT 656R> |
| | 87-070-184-040 | | IC,M65846FP-600D |
| | 87-017-673-019 | | IC,BA3837 |
| | 87-070-163-019 | | IC,STK405-030 |
| | 87-002-909-180 | | IC,TDA7330AD-013TR<656R,K,EE,EZ> |
| | 87-001-792-089 | | IC,NJM2100M<656R,K,EE,EZ> |
| | 87-070-127-019 | | IC,LC72131 |
| | 87-017-714-019 | | IC,LA1836 |
| | 85-NT3-650-010 | | IC,LC866440W-5805<HE,HK;HR,LH,U> |
| | 85-NT3-649-010 | | IC,LC866440W-5827<656R,K,EE,EZ> |
| | 87-017-373-019 | | IC,NJH32H380A |
| TRANSISTOR | | | |
| | 87-026-210-089 | | C-TR,DTC144EK T147 |
| | 89-213-702-019 | | TR,2SB1370E |
| | 89-318-155-089 | | TR,2SC1815GR |
| | 87-026-609-089 | | TR,KTA1266GR |
| | 87-026-610-089 | | TR,KTC3198GR |
| | 89-327-125-089 | | C-TR,2SC2712GR |
| | 89-332-665-089 | | TR,2SC3266GR |
| | 89-420-053-089 | | TR,2SD2005R<U> |
| | 89-111-625-089 | | C-TR,2SA1162GR |
| | 87-026-658-010 | | FET 2SJ176<EXCEPT 656R> |
| | 89-510-940-010 | | FET 2SK1094<EXCEPT 656R> |
| | 89-322-405-089 | | TR,2SC2240GR<EXCEPT 656R> |
| | 89-333-266-089 | | C-TR,2SC3326B |
| | 87-026-232-089 | | C-TR,DTA144WK |
| | 87-026-213-089 | | C-TR,DTC114YK |
| | 89-113-187-889 | | TR,2SA1318TU |
| | 89-406-555-089 | | TR,2SD655E |
| | 87-026-238-089 | | C-TR,DTC144WK |
| | 89-316-236-089 | | TR,2SC 1623 L6 |
| | 87-026-214-089 | | TR,DTA114YS |
| | 89-327-143-089 | | C-TR,2SC2714 (O) |
| | 87-026-226-089 | | C-TR,DTA143EK |
| | 87-026-211-089 | | C-TR,DTA144EK T147 |
| | 89-318-154-089 | | TR,2SC1815Y<HE,HK,HR> |
| | 87-026-462-089 | | TR,2SC1740S (RS)<HE,HK,HR> |
| | 89-320-011-089 | | TR,2SC2001K<HE,HK,HR> |
| | 89-505-434-589 | | C-FET,2SK543(4/5) |
| DIODE | | | |
| | 87-017-447-010 | | DIODE,GBU4DL |
| | 87-017-654-060 | | DIODE,GBU6J<EXCEPT 656R> |
| | 87-020-465-089 | | DIODE,ISS133 |
| | 87-020-027-089 | | C-DIODE,1SS184 |
| | 87-017-978-089 | | DIODE,1N4003 |
| | 87-020-125-089 | | C-DIODE,1SS181 |
| | 87-017-174-089 | | ZENER,HZS11A3L |
| | 87-017-147-089 | | ZENER,HZS33-2 |
| | 87-001-408-080 | | DIODE,GP 15B |
| | 87-070-178-099 | | DIODE,IN5402-BD54<EXCEPT 656R> |
| | 87-017-091-089 | | ZENER,HZS5C1<EXCEPT 656R> |
| | 87-001-731-089 | | ZENER,HZS6C2L |
| | 87-001-911-089 | | ZENER,UTZJ4.7A (TAPG) |
| | 87-001-290-089 | | ZENER,HZS6B1L |
| | 87-002-225-019 | | DIODE,DBF 40C-K10 |
| | 87-017-148-089 | | ZENER,HZS6A1L |
| MAIN C.B | | | |
| C101 | 87-016-043-099 | | CAP,E 3300-50 VR<EXCEPT 656R> |
| C101 | 87-016-055-099 | | CAP,E 3300-42 HI-R<656R> |
| C102 | 87-016-043-099 | | CAP,E 3300-50 VR<EXCEPT 656R> |
| C102 | 87-016-055-099 | | CAP,E 3300-42 HI-R<656R> |
| C104 | 87-010-237-089 | | CAP,E 1000-16 |
| C105 | 87-010-381-089 | | CAP,E 330-16 SME |
| C106 | 87-015-914-089 | | CAP,E 47-100 |
| C106 | 87-016-285-089 | | CAP,E 47-100 SME |
| C107 | 87-010-407-089 | | CAP,E 33-50 SME<EXCEPT 656R> |
| C107 | 87-010-260-089 | | CAP,E 47-25 SME<656R> |
| C108 | 87-010-407-089 | | CAP,E 33-50 SME<EXCEPT 656R> |
| C108 | 87-010-260-089 | | CAP,E 47-25 SME<656R> |
| C109 | 87-010-263-089 | | CAP,E 100-10 SME 5X11 |
| C112 | 87-010-237-089 | | CAP,E 1000-16 |
| C113 | 87-010-403-089 | | CAP,E 3.3-50 SME |
| C115 | 87-012-368-089 | | C-CAP,S 0.1-50F |
| C116 | 87-012-140-089 | | C-CAP,S 470P-50 CH |
| C118 | 87-012-368-089 | | C-CAP,S 0.1-50F |
| C119 | 87-010-404-089 | | CAP,E 4.7-50 SME |
| C120 | 87-010-404-089 | | CAP,E 4.7-50 SME |
| C152 | 87-010-374-089 | | CAP,E 47-10 |
| C161 | 87-010-410-089 | | CAP,E 330-50 SME<EXCEPT 656R> |
| C161 | 87-010-408-089 | | CAP,E 47-50 SME<656R> |
| C162 | 87-010-404-089 | | CAP,E 4.7-50 SME |
| C163 | 87-010-404-089 | | CAP,E 4.7-50 SME |
| C171 | 87-010-453-099 | | CAP,ELECT 4700-25V SME |
| C172 | 87-010-453-099 | | CAP,E 4700-25V SME<EXCEPT 656R> |
| C173 | 87-012-368-089 | | C-CAP S 0.1-50F |
| C174 | 87-012-368-089 | | C-CAP S 0.1-50F |
| C175 | 87-018-209-089 | | CAP,TC-U 0.1-50 F |
| C176 | 87-018-209-089 | | CAP,TC-U 0.1-50 F |
| C177 | 87-018-209-089 | | CAP,TC-U 0.1-50 F |
| C191 | 87-010-213-089 | | C-CAP,S 0.015-50 B |
| C192 | 87-010-213-089 | | C-CAP,S 0.015-50 B |
| C251 | 87-010-404-089 | | CAP,E 4.7-50 SME |
| C252 | 87-010-404-089 | | CAP,E 4.7-50 SME |
| C253 | 87-010-182-089 | | C-CAP,S 2200P-50 B |
| C254 | 87-010-182-089 | | C-CAP,S 2200P-50 B |
| C255 | 87-010-406-089 | | CAP,E 22-50 SME |
| C256 | 87-010-406-089 | | CAP,E 22-50 SME |
| C257 | 87-010-545-089 | | CAP,E 0.22-50 SME<U> |
| C257 | 87-010-400-089 | | CAP,E 0.47-50 SME<EXCEPT U> |
| C258 | 87-010-545-089 | | CAP,E 0.22-50 SME<U> |
| C258 | 87-010-400-089 | | CAP,E 0.47-50 SME<EXCEPT U> |
| C259 | 87-010-260-089 | | CAP,E 47-25 SME |
| C260 | 87-010-260-089 | | CAP,E 47-25 SME |
| C263 | 87-010-154-089 | | C-CAP,S 10P-50 CH |
| C264 | 87-010-154-089 | | C-CAP,S 10P-50 CH |
| C265 | 87-010-260-089 | | CAP,E 47-25 SME |
| C266 | 87-010-260-089 | | CAP,E 47-25 SME |

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| C267 | 87-012-368-089 | | C-CAP S 0.1-50F |
| C268 | 87-012-368-089 | | C-CAP S 0.1-50F |
| C269 | 87-012-361-089 | | C-CAP,S 0.056-25 Y |
| C270 | 87-012-361-089 | | C-CAP,S 0.056-25 Y |
| C273 | 87-010-186-089 | | C-CAP,S 4700P-50 B<656R,K,EE,EZ> |
| C274 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C301 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C302 | 87-010-260-089 | | CAP,E 47-25 SME |
| C303 | 87-010-544-089 | | CAP,E 0.1-50<656R,K,EE,EZ> |
| C303 | 87-010-546-089 | | CAP,E 0.33-50 SME<HE,HK,HR,LH,U> |
| C304 | 87-010-544-089 | | CAP,E 0.1-50<656R,K,EE,EZ> |
| C304 | 87-010-546-089 | | CAP,E 0.33-50 SME<HE,HK,HR,LH,U> |
| C305 | 87-010-400-089 | | CAP,E 0.47-50 SME |
| C306 | 87-010-400-089 | | CAP,E 0.47-50 SME |
| C307 | 87-010-213-089 | | C-CAP,S 0.015-50 B<EXCEPT LH,U> |
| C307 | 87-010-198-089 | | C-CAP,S 0.022-25 B<LH,U> |
| C308 | 87-010-213-089 | | C-CAP,S 0.015-50 B<EXCEPT LH,U> |
| C308 | 87-010-198-089 | | C-CAP,S 0.022-25 B<LH,U> |
| C310 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C313 | 87-010-178-089 | | C-CAP,S 1000P-50B<HE,HK,HR,LH,U> |
| C314 | 87-010-178-089 | | C-CAP,S 1000P-50B<HE,HK,HR,LH,U> |
| C349 | 87-012-142-089 | | C-CAP,S 0.33-16 F |
| C350 | 87-016-081-089 | | C-CAP,S 0.1-16 RK |
| C351 | 87-016-081-089 | | C-CAP,S 0.1-16 RK |
| C355 | 87-012-156-089 | | C-CAP,S 220P-50 CH |
| C356 | 87-012-156-089 | | C-CAP,S 220P-50 CH |
| C357 | 87-012-156-089 | | C-CAP,S 220P-50 CH |
| C383 | 87-012-154-089 | | C-CAP,S 150P-50CH<656R,K,EE,U,EZ> |
| C384 | 87-012-154-089 | | C-CAP,S 150P-50CH<656R,K,EE,U,EZ> |
| C401 | 87-010-401-089 | | CAP,E 1-50 SME<EXCEPT 656R> |
| C402 | 87-010-405-089 | | CAP,E 10-50 SME<EXCEPT 656R> |
| C403 | 87-010-101-089 | | CAP,E 220-16 SME<EXCEPT 656R> |
| C405 | 87-010-178-089 | | C-CAP,S 1000P-50 B<EXCEPT 656R> |
| C406 | 87-010-178-089 | | C-CAP,S 1000P-50 B<EXCEPT 656R> |
| C407 | 87-010-404-089 | | CAP,E 4.7-50 SME<EXCEPT 656R> |
| C408 | 87-010-404-089 | | CAP,E 4.7-50 SME<EXCEPT 656R> |
| C409 | 87-010-404-089 | | CAP,E 4.7-50 SME<EXCEPT 656R> |
| C410 | 87-010-404-089 | | CAP,E 4.7-50 SME<EXCEPT 656R> |
| C411 | 87-010-177-089 | | C-CAP,S 820P-50 SL<EXCEPT 656R> |
| C412 | 87-010-177-089 | | C-CAP,S 820P-50 SL<EXCEPT 656R> |
| C413 | 87-010-404-089 | | CAP,E 4.7-50 SME<EXCEPT 656R> |
| C414 | 87-010-404-089 | | CAP,E 4.7-50 SME<EXCEPT 656R> |
| C415 | 87-010-400-089 | | CAP,E 0.47-50 SME<EXCEPT 656R> |
| C416 | 87-010-400-089 | | CAP,E 0.47-50 SME<EXCEPT 656R> |
| C417 | 87-010-197-089 | | C-CAP,S 0.01-25 B<EXCEPT 656R> |
| C418 | 87-010-197-089 | | C-CAP,S 0.01-25 B<EXCEPT 656R> |
| C419 | 87-010-184-089 | | C-CAP,S 3300P-50 B<EXCEPT 656R> |
| C420 | 87-010-184-089 | | C-CAP,S 3300P-50 B<EXCEPT 656R> |
| C421 | 87-012-155-089 | | C-CAP,S 180P-50 CH<EXCEPT 656R> |
| C422 | 87-012-155-089 | | C-CAP,S 180P-50 CH<EXCEPT 656R> |
| C423 | 87-010-405-089 | | CAP,E 10-50 SME |
| C424 | 87-010-405-089 | | CAP,E 10-50 SME |
| C430 | 87-010-405-089 | | CAP,E 10-50 SME<EXCEPT 656R> |
| C431 | 87-010-401-089 | | CAP,E 1-50 SME<EXCEPT 656R> |
| C432 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C500 | 87-010-194-089 | | C-CAP,S 0.047-25 F |
| C501 | 87-010-545-089 | | CAP,E 0.22-50 SME |
| C502 | 87-010-382-089 | | CAP,E 22-25 SME |
| C503 | 87-010-404-089 | | CAP,E 4.7-50 SME |
| C504 | 87-010-404-089 | | CAP,E 4.7-50 SME |
| C505 | 87-010-546-089 | | CAP,E 0.33-50 SME<EXCEPT 656R> |
| C505 | 87-010-405-089 | | CAP,E 10-50 SME<656R> |
| C506 | 87-010-546-089 | | CAP,E 0.33-50 SME<EXCEPT 656R> |
| C506 | 87-010-405-089 | | CAP,E 10-50 SME<656R> |
| C507 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C508 | 87-010-260-089 | | CAP,E 47-25 SME |
| C509 | 87-010-405-089 | | CAP,E 10-50 SME |
| C670 | 87-010-178-089 | | C-CAP,S 1000P-50 B<656R,K,EE,EZ> |
| C671 | 87-012-156-089 | | C-CAP,S 220P-50 CH<656R,K,EE,EZ> |
| C672 | 87-010-405-089 | | CAP,E 10-50 SME<656R,K,EE,EZ> |

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| C673 | 87-010-197-089 | | C-CAP,S 0.01-25 B<656R,K,EE,EZ> |
| C674 | 87-010-248-089 | | CAP,E 220-10 SME<656R,K,EE,EZ> |
| C675 | 87-010-315-089 | | C-CAP,S 27P-50 CH<656R,K,EE,EZ> |
| C676 | 87-010-317-089 | | C-CAP,S 39P-50 CH<656R,K,EE,EZ> |
| C678 | 87-010-196-089 | | C-CAP,S 0.1-25 F<656R,K,EE,EZ> |
| C679 | 87-010-182-089 | | C-CAP,S 2200P-50 B<656R,K,EE,EZ> |
| C701 | 87-010-381-089 | | CAP,E 330-16 SME |
| C702 | 87-010-404-089 | | CAP,E 4.7-50 SME |
| C703 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C704 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C711 | 87-010-263-089 | | CAP,E 100-10 SME 5X11 |
| C712 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C722 | 87-010-154-089 | | C-CAP,S 10P-50 CH<HE,HK,HR> |
| C722 | 87-010-311-089 | | C-CAP,S 12P-50CH<EXCEPT HE,HK,HR> |
| C723 | 87-010-178-089 | | C-CAP,S 1000P-50 B |
| C725 | 87-010-178-089 | | C-CAP,S 1000P-50 B |
| C727 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C728 | 87-010-248-089 | | CAP,E 220-10 SME |
| C755 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C756 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C771 | 87-010-405-089 | | CAP,E 10-50 SME |
| C772 | 87-010-194-089 | | C-CAP,S 0.047-25 F |
| C773 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C774 | 87-010-263-089 | | CAP,E 100-10 SME 5X11 |
| C775 | 87-010-405-089 | | CAP,E 10-50 SME |
| C776 | 87-010-197-089 | | C-CAP,S 0.01-25B<EXCEPT HE,HK,HR> |
| C777 | 87-010-400-089 | | CAP,E 0.47-50 SME |
| C778 | 87-010-401-089 | | CAP,E 1-50 SME |
| C779 | 87-010-401-089 | | CAP,E 1-50 SME |
| C780 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C781 | 87-010-405-089 | | CAP,E 10-50 SME |
| C782 | 87-010-405-089 | | CAP,E 10-50 SME |
| C783 | 87-010-184-089 | | C-CAP,S 3300P-50 B<656R,K,EE,EZ> |
| C784 | 87-010-184-089 | | C-CAP,S 3300P-50 B<656R,K,EE,EZ> |
| C787 | 87-010-184-089 | | C-CAP,S 3300P-50 B<HE,HK,HR,LH,U> |
| C788 | 87-010-184-089 | | C-CAP,S 3300P-50 B<HE,HK,HR,LH,U> |
| C789 | 87-010-179-089 | | C-CAP,S 1200P-50 B |
| C790 | 87-010-179-089 | | C-CAP,S 1200P-50 B |
| C791 | 87-010-401-089 | | CAP,E 1-50 SME |
| C792 | 87-010-180-089 | | C-CAP,S 1500P-50B<HE,HK,HR,LH,U> |
| C792 | 87-010-182-089 | | C-CAP,S 2200P-50 B<656R,K,EE,EZ> |
| C793 | 87-010-189-089 | | C-CAP,S 8200P-50 B |
| C794 | 87-010-408-089 | | CAP,E 47-50 SME |
| C795 | 87-010-194-089 | | C-CAP,S 0.047-25 F |
| C796 | 87-010-403-089 | | CAP,E 3.3-50 SME |
| C797 | 87-010-405-089 | | CAP,E 10-50 SME |
| C798 | 87-010-196-089 | | C-CAP,S 0.1-25F<EXCEPT HE,HK,HR> |
| C799 | 87-010-186-089 | | C-CAP,S 4700P-50 B<656R,K,EE,EZ> |
| C800 | 87-010-186-089 | | C-CAP,S 4700P-50 B<656R,K,EE,EZ> |
| C801 | 87-018-134-089 | | CAP,TC-U 0.01-16Y<HE,HK,HR,LH,U> |
| C802 | 87-018-134-089 | | CAP,TC-U 0.01-16 Y |
| C814 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C817 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C818 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C819 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C820 | 87-010-260-089 | | CAP,E 47-25 SME |
| C821 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C822 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C823 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C824 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C825 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C830 | 87-018-134-089 | | CAP,TC-U 0.01-16 Y |
| C831 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C840 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C841 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C842 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C850 | 87-018-209-089 | | CAP,TC-U 0.1-50F<EXCEPT HE,HK,HR> |
| C852 | 87-018-209-089 | | CAP,TC-U 0.1-50F<EXCEPT HE,HK,HR> |
| C941 | 87-010-197-089 | | C-CAP,S 0.01-25 B<656R,K,EE,EZ> |
| C942 | 87-010-311-089 | | C-CAP,S 12P-50 CH<656R,K,EE,EZ> |

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| C944 | 87-010-154-089 | | C-CAP,S 10P-50 CH<656R,K,EE,EZ> |
| C945 | 87-014-050-089 | | CAP,PP 510P-100 J<656R,K,EE,EZ> |
| C946 | 87-010-401-089 | | CAP,E 1-50 SME |
| C947 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C948 | 87-010-196-089 | | C-CAP,S 0.1-25 F<656R,K,EE,EZ> |
| C949 | 87-010-197-089 | | C-CAP,S 0.01-25B<EXCEPT HE,HK,HR> |
| C950 | 87-010-322-089 | | C-CAP,S100P-50CH<EXCEPT HE,HK,HR> |
| C951 | 87-010-401-089 | | CAP,E 1-50 SME<EXCEPT HE,HK,HR> |
| C952 | 87-010-311-089 | | C-CAP,S 12P-50 CH<LH,U> |
| C983 | 87-010-544-089 | | CAP,E 0.1-50<EXCEPT HE,HK,HR> |
| C987 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C988 | 87-010-197-089 | | C-CAP,S 0.01-25 B<EXCEPT LH,U> |
| C990 | 87-010-197-089 | | C-CAP,S 0.01-25B<EXCEPT HE,HK,HR> |
| C995 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| CF801 | 87-008-423-019 | | CF,SFE10.7 MS3G-A<656R,K,EE,EZ> |
| CF801 | 87-008-261-019 | | FLTR,SFE10.7MA5-A<HE,HK,HR,LH,U> |
| CF802 | 82-785-747-019 | | CF,MS2 GHY,R<656R,K,EE,EZ> |
| CF802 | 87-008-261-019 | | FLTR,SFE10.7MA5-A<HE,HK,HR,LH,U> |
| FFE801 | 85-NF5-605-019 | | FE PACK 2 EX<HE,HK,HR,LH,U> |
| FFE801 | 84-CF3-646-019 | | FE PACK 4<656R,K,EE,EZ> |
| J251 | 87-033-226-019 | | TERMINAL,SP 4P (JT) |
| J252 | 87-099-678-019 | | JACK,6.3 W/S BLK<656R> |
| J252 | 87-099-794-019 | | JACK,6.3 W/S BLK<EXCEPT 656R> |
| J253 | 87-099-475-019 | | JACK,PIN 3P BLK W/E |
| J301 | 80-MT3-616-019 | | JACK,PIN 2P |
| J801 | 82-NF5-621-019 | | ANTTERM JBT 0222<HE,HK,HR,LH,U> |
| J801 | 87-033-230-019 | | TERM,ANT AJ-2016<656R,K,EE,EZ> |
| L192 | 87-005-366-019 | | COIL,1UH |
| L193 | 87-005-366-019 | | COIL,1UH |
| L671 | 87-003-098-089 | | COIL,2.2UH<656R,K,EE,EZ> |
| L701 | 81-631-643-019 | | COIL 1 POLE MPX<HE,HK,HR,LH,U> |
| L701 | 83-DS3-614-019 | | FLTR,MPX 85K<656R,K,EE,EZ> |
| L702 | 81-631-643-019 | | COIL 1 POLE MPX<HE,HK,HR,LH,U> |
| L702 | 83-DS3-614-019 | | FLTR,MPX 85K<656R,K,EE,EZ> |
| L741 | 87-006-253-019 | | COIL,FM DET N |
| L742 | 81-631-612-019 | | CFMT 450A<HE,HK,HR> |
| L742 | 82-NT1-659-019 | | FLTR,CFAZ450 2NT<EXCEPT HE,HK,HR> |
| L770 | 87-003-102-089 | | COIL,10UH |
| L832 | 87-003-098-089 | | COIL,2.2UH |
| L941 | 87-006-208-019 | | COIL, ANT LW<656R,K,EE,EZ> |
| L942 | 87-007-305-019 | | COIL OSC LW S<656R,K,EE,EZ> |
| L981 | 81-MX4-620-019 | | AM PACK 3,S<LH,U> |
| L981 | 81-MX4-619-019 | | AM PACK 4<656R,K,EE,EZ> |
| R105 | 87-022-661-089 | | RES,M/F 0.22-2W J<U> |
| R105 | 87-022-050-089 | | RESIS METAL 1W-0.22J<EXCEPT U> |
| R106 | 87-022-661-089 | | RES,M/F 0.22-2W J<U> |
| R106 | 87-022-050-089 | | RESIS METAL 1W-0.22J<EXCEPT U> |
| R283 | 87-022-050-089 | | RESIS METAL 1W-0.22J<EXCEPT U> |
| R290 | 87-022-050-089 | | RESIS METAL 1W-0.22J<EXCEPT U> |
| R295 | 87-022-394-089 | | RES,NF 0.47-1/4W J |
| RY101 | 87-045-361-019 | | RELAY,DH12D2-OS(M)-2 |
| SFR722 | 87-024-171-089 | | SFR 4.7K DIA6 V |
| TC701 | 87-011-253-089 | | TRIMER,30P LAR |
| TC942 | 87-011-253-089 | | TRIMER,30P LAR<656R,K,EE,EZ> |
| VR351 | 82-NF5-660-019 | | VR 50K BX2 RK14K 12A |
| W101 | 81-MX4-647-019 | | F-CABEL,7P-2.5 |
| X670 | 89-KT1-608-010 | | X,TAL 4.332MHZ<656R,K,EE,EZ> |
| X703 | 84-508-618-019 | | VIB,CER CSB 456 F/5 |
| X721 | 87-030-163-019 | | VIB,XTAL 7.2MHZ<EXCEPT HE,HK,HR> |
| X721 | 87-030-278-089 | | VIB,XTAL 7.2MHZ,S<HE,HK,HR> |
| X722 | 87-030-354-019 | | VIB,CF BFU450C<HE,HK,HR> |

FRONT C.B

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| C201 | 87-010-408-049 | | CAP-E 47-50 SME |
| C202 | 87-015-698-049 | | CAP,E 4.7-50 7L |
| C203 | 87-010-404-049 | | CAP,E 4.7-50 SME |
| C204 | 87-010-263-049 | | CAP,E 100-10 |
| C205 | 87-015-695-049 | | CAP,E 1-50 7L |
| C206 | 87-015-695-049 | | CAP,E 1-50 7L |
| C207 | 87-010-754-049 | | CAP,E 220-10 SRA 7L |
| C301 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C401 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C402 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C403 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C404 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C405 | 87-010-322-089 | | C-CAP,S 100P-50 CH |
| C409 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C501 | 87-010-060-049 | | CAP,E 100-16 7L |
| C601 | 87-010-405-049 | | CAP,E 10-50 SME |
| C602 | 87-010-176-089 | | C-CAP,S 680P-50 SL |
| C603 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C605 | 87-010-319-089 | | C-CAP,S 56P-50 CH |
| C606 | 87-012-142-089 | | C-CAP,S 0.33-16 F |
| C607 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C608 | 87-010-322-089 | | C-CAP,S 100P-50 CH |
| C609 | 87-010-545-049 | | CAP E 0.22-50 SME |
| C610 | 87-012-155-089 | | C-CAP,S 180P-50 CH |
| C611 | 87-010-406-049 | | CAP,E 22-50 SME |
| C614 | 87-010-248-049 | | CAP,E 220-10 SME |
| C615 | 87-010-401-049 | | CAP,E 1-50 SME |
| C646 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C655 | 87-010-404-089 | | CAP,E 4.7-50 SME<656R> |
| C656 | 87-010-404-089 | | CAP,E 4.7-50 SME<656R> |
| C901 | 87-015-681-049 | | CAP,E 10-16 7L |
| C902 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C903 | 87-010-180-089 | | C-CAP,S 1500P-50 B |
| C904 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C906 | 87-012-155-089 | | C-CAP,S 180P-50 CH |
| C907 | 87-010-150-089 | | C-CAP,S 6P-50 CH |
| C908 | 87-010-178-089 | | C-CAP,S 1000P-50 B |
| FC1 | 85-912-191-219 | | FF-CABLE,12P 1.25<EXCEPT 656R> |
| FL901 | 85-NT3-652-019 | | FL,BJ371GK |
| J601 | 82-NF7-630-019 | | JACK,3.5 MO |
| J621 | 82-NF7-630-019 | | JACK,3.5 MO |
| L901 | 87-007-339-019 | | COIL,CLOCK 5.76MHZ |
| LED301 | 87-017-297-080 | | LED,SEL1550CM TP7 |
| LED302 | 87-017-297-080 | | LED,SEL1550CM TP7<EXCEPT K,EE,EZ> |
| LED303 | 87-017-297-080 | | LED,SEL1550CM TP7 |
| LED304 | 87-017-297-080 | | LED,SEL1550CM TP7 |
| LED305 | 87-017-297-080 | | LED,SEL1550CM TP7 |
| LED306 | 87-017-297-080 | | LED,SEL1550CM TP7 |
| LED307 | 87-017-297-080 | | LED,SEL1550CM TP7 |
| LED308 | 87-017-297-080 | | LED,SEL1550CM TP7 |
| LED309 | 87-017-297-080 | | LED,SEL1550CM TP7 |
| LED310 | 87-017-297-080 | | LED,SEL1550CM TP7 |
| LED311 | 87-017-297-080 | | LED,SEL1550CM TP7 |
| LED312 | 87-017-297-080 | | LED,SEL1550CM TP7 |
| LED313 | 87-070-012-080 | | LED,SEL1213C TP7 |
| LED314 | 87-070-011-080 | | LED,SEL1413E TP7 |
| LED315 | 87-070-012-080 | | LED,SEL1213C TP7 |
| LED316 | 87-070-011-080 | | LED,SEL1413E TP7 |
| LED317 | 87-070-012-080 | | LED,SEL1213C TP7 |
| LED318 | 87-070-011-080 | | LED,SEL1413E TP7 |
| LED319 | 87-070-012-080 | | LED,SEL1213C TP7 |
| LED320 | 87-070-011-080 | | LED,SEL1413E TP7 |
| S901 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S902 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S903 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S904 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S905 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S906 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S907 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S908 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S909 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S910 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S911 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S912 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S913 | 87-036-215-089 | | SW,TACT EVQ21404M |

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| S914 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S915 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S916 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S917 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S918 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S919 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S922 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S923 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S924 | 87-036-215-089 | | SW,TACT EVQ21404M |
| VR600 | 85-NT3-655-019 | | VR,100KW<656R> |
| VR600 | 83-NM1-627-019 | | VR,10KB RK11K1130<EXCEPT 656R> |
| VR601 | 81-MX4-637-019 | | VR 10KA RK11K1130 |

VOL C.B

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| C105 | 87-010-401-049 | | CAP,E 1-50 SME |
| C106 | 87-010-401-049 | | CAP,E 1-50 SME |
| C107 | 87-010-194-089 | | C-CAP,S 0.047-25 F |
| C108 | 87-010-194-089 | | C-CAP,S 0.047-25 F |
| C109 | 87-010-195-089 | | C-CAP,S 0.068-25 F |
| C110 | 87-010-195-089 | | C-CAP,S 0.068-25 F |
| C111 | 87-010-186-089 | | C-CAP,S 4700P-50 B |
| C112 | 87-010-186-089 | | C-CAP,S 4700P-50 B |
| C113 | 87-010-260-049 | | CAP,E 47-25 SME |
| C114 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C115 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C116 | 87-010-198-089 | | C-CAP,S 0.022-25 B |
| C117 | 87-010-402-049 | | CAP E2.2-50 SME |
| C118 | 87-010-402-049 | | CAP E2.2-50 SME |
| C119 | 87-016-073-089 | | CAP,E 1-50 FX |
| C120 | 87-016-073-089 | | CAP,E 1-50 FX |
| C121 | 87-010-401-049 | | CAP,E 1-50 SME |
| C122 | 87-010-401-049 | | CAP,E 1-50 SME |
| C123 | 87-010-403-049 | | CAP,E 3.3-50 SME |
| C124 | 87-010-403-049 | | CAP,E 3.3-50 SME |
| C125 | 87-010-381-089 | | CAP,E 330-16 SME |
| C126 | 87-010-401-049 | | CAP,E 1-50 SME |
| C127 | 87-010-401-049 | | CAP,E 1-50 SME |
| C128 | 87-010-400-049 | | CAP,E 0.47-50 |
| C129 | 87-010-401-049 | | CAP,E 1-50 SME |
| C130 | 87-010-401-049 | | CAP,E 1-50 SME |
| C131 | 87-010-384-089 | | CAP,E 100-25 SME |
| C132 | 87-010-402-049 | | CAP E2.2-50 SME<EXCEPT 656R> |
| C133 | 87-010-402-049 | | CAP E2.2-50 SME<EXCEPT 656R> |
| C134 | 87-010-384-089 | | CAP,E 100-25 SME |
| C135 | 87-010-402-049 | | CAP E2.2-50 SME<EXCEPT 656R> |
| C136 | 87-010-402-049 | | CAP E2.2-50 SME<EXCEPT 656R> |
| C137 | 87-010-260-049 | | CAP,E 47-25 SME |
| FC2 | 85-NT3-642-019 | | CABLE FFC,8P-1.25<EXCEPT 656R> |
| VR101 | 83-NT4-635-019 | | VOL,50KBX2(M)<656R> |
| VR101 | 85-NT3-660-019 | | VR,50KBX4<EXCEPT 656R> |

SW C.B<HE,HK,HR>

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| C951 | 87-010-197-089 | | C-CAP,S 0.01-25 B<HE,HK,HR> |
| C952 | 87-010-197-089 | | C-CAP,S 0.01-25 B<HE,HK,HR> |
| C953 | 87-010-197-089 | | C-CAP,S 0.01-25 B<HE,HK,HR> |
| C954 | 87-010-263-089 | | CAP,E 100-10 SME 5X11<HE,HK,HR> |
| C955 | 87-010-154-089 | | C-CAP,S 10P-50 CH<HE,HK,HR> |
| C956 | 87-010-197-089 | | C-CAP,S 0.01-25 B<HE,HK,HR> |
| C957 | 87-010-197-089 | | C-CAP,S 0.01-25 B<HE,HK,HR> |
| C958 | 87-010-197-089 | | C-CAP,S 0.01-25 B<HE,HK,HR> |
| C959 | 87-018-209-089 | | CAP,TC-U 0.1-50 F<HE,HK,HR> |
| C961 | 87-014-051-089 | | CAP,PP 560P-100 J<HE,HK,HR> |
| C962 | 87-014-073-089 | | CAP,PP 4700P-100 J<HE,HK,HR> |
| C963 | 87-010-311-089 | | C-CAP,S 12P-50 CH<HE,HK,HR> |
| C964 | 87-010-313-089 | | C-CAP,S 18P-50 CH<HE,HK,HR> |
| C965 | 87-010-186-089 | | C-CAP,S 4700P-50 B<HE,HK,HR> |
| C966 | 87-010-263-089 | | CAP,E 100-10 SME 5X11<HE,HK,HR> |
| C970 | 87-010-197-089 | | C-CAP,S 0.01-25 B<HE,HK,HR> |
| C971 | 87-010-197-089 | | C-CAP,S 0.01-25 B<HE,HK,HR> |
| C974 | 87-010-196-089 | | C-CAP,S 0.1-25 F<HE,HK,HR> |
| C976 | 87-010-400-089 | | CAP,E 0.47-50 SME<HE,HK,HR> |
| D958 | 87-017-568-089 | | VARI-CAP,SVC 342 M/L<HE,HK,HR> |
| L951 | 87-006-316-019 | | COIL,ANT MW(SGB)<HE,HK,HR> |
| L952 | 87-006-255-019 | | COIL,ANT SW1(SG7)<HE,HK,HR> |
| L953 | 87-006-256-019 | | COIL,ANT SW2(SG7)<HE,HK,HR> |
| L954 | 87-005-372-089 | | COIL S 1 MH TAPG<HE,HK,HR> |
| L955 | 87-005-372-089 | | COIL S 1 MH TAPG<HE,HK,HR> |
| L956 | 87-007-326-019 | | COIL,OSC MW(SG)<HE,HK,HR> |
| L957 | 87-007-327-019 | | COIL,OSC SW1(SG)<HE,HK,HR> |
| L958 | 87-007-332-019 | | COIL,OSC SW2(SG7)<HE,HK,HR> |
| TC951 | 87-011-220-089 | | CAP TRIMMER 20P VCT<HE,HK,HR> |
| TC952 | 87-011-221-089 | | TRIMER.30P VCT51<HE,HK,HR> |
| TC953 | 87-011-221-089 | | TRIMER.30P VCT51<HE,HK,HR> |

AC-2 C.B

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| ⚠F102 | 87-026-691-089 | | FUSE,10A 125V<U> |
| ⚠F103 | 87-026-691-089 | | FUSE,10A 125V<U> |
| ⚠F106 | 87-026-690-089 | | FUSE,5A 125V<U> |
| ⚠F107 | 87-026-690-089 | | FUSE,5A 125V<U> |
| ⚠PR102 | 87-026-682-089 | | PR,10A 60V491<EXCEPT 656R,U> |
| ⚠PR102 | 87-026-681-089 | | PROTECTOR,5A 60V 491<656R> |
| ⚠PR103 | 87-026-682-089 | | PR,10A 60V491<EXCEPT 656R,U> |
| ⚠PR103 | 87-026-681-089 | | PROTECTOR,5A 60V 491<656R> |
| ⚠PR106 | 87-026-681-089 | | PR,5A 60V 491<EXCEPT 656R,U> |
| ⚠PR107 | 87-026-681-089 | | PR,5A 60V 491<EXCEPT 656R,U> |
| ⚠PT101 | 85-NT3-608-019 | | PT,5NT-3 E<K,EE,EZ> |
| ⚠PT101 | 85-NT3-609-019 | | PT,5NT-3 EL<656R> |
| ⚠PT101 | 85-NT3-606-019 | | PT,5NT-3 HR<HR> |
| ⚠PT101 | 85-NT3-666-019 | | PT,5NT-3 LH<HE,HK,LH> |
| ⚠PT101 | 85-NT3-607-019 | | PT,5NT-3 U<U> |

PT C.B<HE,HK,HR,LH>

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| ⚠ | 87-033-147-019 | | CLAMP,FUSE<HE,HK,HR,LH> |
| ⚠F101 | 87-035-367-019 | | FUSE,3.15A 250V T E<HE,HK,HR,LH> |
| ⚠SW101 | 87-036-387-019 | | SW,SL 1-2-3<HE,HK,HR,LH> |

AC-1 C.B<656R,K,EE,U,EZ>

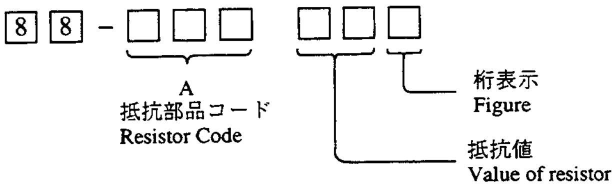
PRO/DSP C.B

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| C101 | 87-012-393-089 | | C-CAP,S 0.22-16,R,K |
| C102 | 87-012-393-089 | | C-CAP,S 0.22-16,R,K |
| C103 | 87-012-393-089 | | C-CAP,S 0.22-16,R,K |
| C104 | 87-010-404-089 | | CAP,E 4.7-50 SME |
| C105 | 87-010-404-089 | | CAP,E 4.7-50 SME |
| C106 | 87-012-393-089 | | C-CAP,S 0.22-16,R,K |
| C107 | 87-016-081-089 | | C-CAP,S 0.1-16 RK |
| C108 | 87-016-081-089 | | C-CAP,S 0.1-16 RK |
| C109 | 87-016-081-089 | | C-CAP,S 0.1-16 RK |
| C110 | 87-016-081-089 | | C-CAP,S 0.1-16 RK |
| C113 | 87-010-176-089 | | C-CAP,S 680P-50 SL |
| C117 | 87-010-176-089 | | C-CAP,S 680P-50 SL |
| C119 | 87-016-456-089 | | CAP,E 22-16 LLA |
| C120 | 87-010-405-089 | | CAP,E 10-50 SME |
| C123 | 87-010-405-089 | | CAP,E 10-50 SME |
| C124 | 87-010-405-089 | | CAP,E 10-50 SME |
| C125 | 87-010-186-089 | | C-CAP,S 4700P-50 B |
| C126 | 87-016-472-089 | | CAP,E 22-16,SME (K) |
| C127 | 87-010-405-089 | | CAP,E 10-50 SME |
| C128 | 87-010-405-089 | | CAP,E 10-50 SME |
| C129 | 87-010-384-089 | | CAP,E 100-25 SME |
| C130 | 87-010-248-089 | | CAP,E 220-10 SME |
| C132 | 87-012-394-089 | | C-CAP,0.68-16,R,K |
| C201 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C202 | 87-010-405-089 | | CAP,E 10-50 SME |

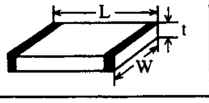
| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| C301 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C302 | 87-010-402-089 | | CAP,E 2.2-50 SME |
| C303 | 87-010-545-089 | | CAP,E 0.22-50 SME |
| C304 | 87-010-405-089 | | CAP,E 10-50 SME |
| C305 | 87-010-318-089 | | C-CAP,S 47P-50 CH |
| C331 | 87-012-393-089 | | C-CAP,S 0.22-16,R,K |
| C351 | 87-010-401-089 | | CAP;E 1-50 SME |
| C352 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C401 | 87-010-248-089 | | CAP,E 220-10 SME |
| C402 | 87-010-405-089 | | CAP,E 10-50 SME |
| C403 | 87-010-402-089 | | CAP,E 2.2-50 SME |
| C404 | 87-010-402-089 | | CAP,E 2.2-50 SME |
| C411 | 87-010-248-089 | | CAP,E 220-10 SME |
| C412 | 87-010-405-089 | | CAP,E 10-50 SME |
| C415 | 87-010-402-089 | | CAP,E 2.2-50 SME |
| C416 | 87-010-402-089 | | CAP,E 2.2-50 SME |
| C452 | 87-010-263-089 | | CAP,E 100-10 SME 5X11 |
| C455 | 87-010-402-089 | | CAP,E 2.2-50 SME |
| C456 | 87-010-402-089 | | CAP,E 2.2-50 SME |
| C457 | 87-010-402-089 | | CAP,E 2.2-50 SME |
| C458 | 87-010-402-089 | | CAP,E 2.2-50 SME |
| C459 | 87-010-405-089 | | CAP,E 10-50 SME |
| C471 | 87-010-402-089 | | CAP,E 2.2-50 SME |
| C472 | 87-010-402-089 | | CAP,E 2.2-50 SME |
| C481 | 87-010-402-089 | | CAP,E 2.2-50 SME |
| C482 | 87-010-402-089 | | CAP,E 2.2-50 SME |
| C501 | 87-010-177-089 | | C-CAP,S 820P-50 SL |
| C502 | 87-010-179-089 | | C-CAP,S 1200P-50 B |
| C503 | 87-010-263-089 | | CAP,E 100-10 SME 5X11 |
| C504 | 87-010-263-089 | | CAP,E 100-10 SME 5X11 |
| C505 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C506 | 87-010-318-089 | | C-CAP,S 47P-50 CH |
| C507 | 87-010-317-089 | | C-CAP,S 39P-50 CH |
| C508 | 87-010-151-089 | | C-CAP,S 7P-50 CH |
| C510 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C512 | 87-010-179-089 | | C-CAP,S 1200P-50 B |
| C513 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C516 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C517 | 87-010-404-089 | | CAP,E 4.7-50 SME |
| C518 | 87-010-404-089 | | CAP,E 4.7-50 SME |
| C519 | 87-010-187-089 | | C-CAP,S 5600P-50 B |
| C520 | 87-010-182-089 | | C-CAP,S 2200P-50 B |
| C521 | 87-012-141-089 | | C-CAP,S 0.22-16 F |
| C524 | 87-010-184-089 | | C-CAP,S 3300P-50 B |
| C611 | 87-012-140-089 | | C-CAP,S 470P-50 CH |
| C612 | 87-012-140-089 | | C-CAP,S 470P-50 CH |
| C613 | 87-010-402-089 | | CAP,E 2.2-50 SME |
| C614 | 87-010-402-089 | | CAP,E 2.2-50 SME |
| C615 | 87-010-194-089 | | C-CAP,S 0.047-25 F |
| C616 | 87-010-405-089 | | CAP,E 10-50 SME |
| C617 | 87-010-405-089 | | CAP,E 10-50 SME |
| C621 | 87-010-408-089 | | CAP,E 47-50 SME |
| C622 | 87-010-147-089 | | C-CAP,S 3P-50 CH |
| C623 | 87-010-147-089 | | C-CAP,S 3P-50 CH |
| C631 | 87-010-993-089 | | C-CAP,S 0.056-25 B |
| C632 | 87-010-993-089 | | C-CAP,S 0.056-25 B |
| C633 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C634 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C651 | 87-016-369-089 | | C-CAP,S 0.033-25 B<656R,K,EE,EZ> |
| C652 | 87-016-369-089 | | C-CAP,S 0.033-25 B<656R,K,EE,EZ> |
| C653 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C681 | 87-010-197-089 | | C-CAP,S 0.01-25 B<656R,K,EE,EZ> |
| C720 | 87-010-398-099 | | CAP,E 2200-35V |
| C721 | 87-010-398-099 | | CAP,E 2200-35V |
| C722 | 87-012-369-089 | | C-CAP,S,0.047-50 F |
| C723 | 87-012-369-089 | | C-CAP,S,0.047-50 F |
| C725 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| J101 | 87-099-803-019 | | JACK,PIN 3P OWR |
| L501 | 87-005-487-089 | | COIL,150UH J FLR50 |
| L601 | 87-003-383-019 | | COIL, 1UH-S<656R,K,EE,EZ> |
| L602 | 87-003-383-019 | | COIL, 1UH-S<656R,K,EE,EZ> |
| R117 | 87-025-407-089 | | RES,M/F 100K-1/8W |
| R703 | 87-022-050-089 | | RESIS METAL 1W-0.22J |
| R708 | 87-022-050-089 | | RESIS METAL 1W-0.22J |

○ チップ抵抗部品コード／CHIP RESISTOR PART CODE

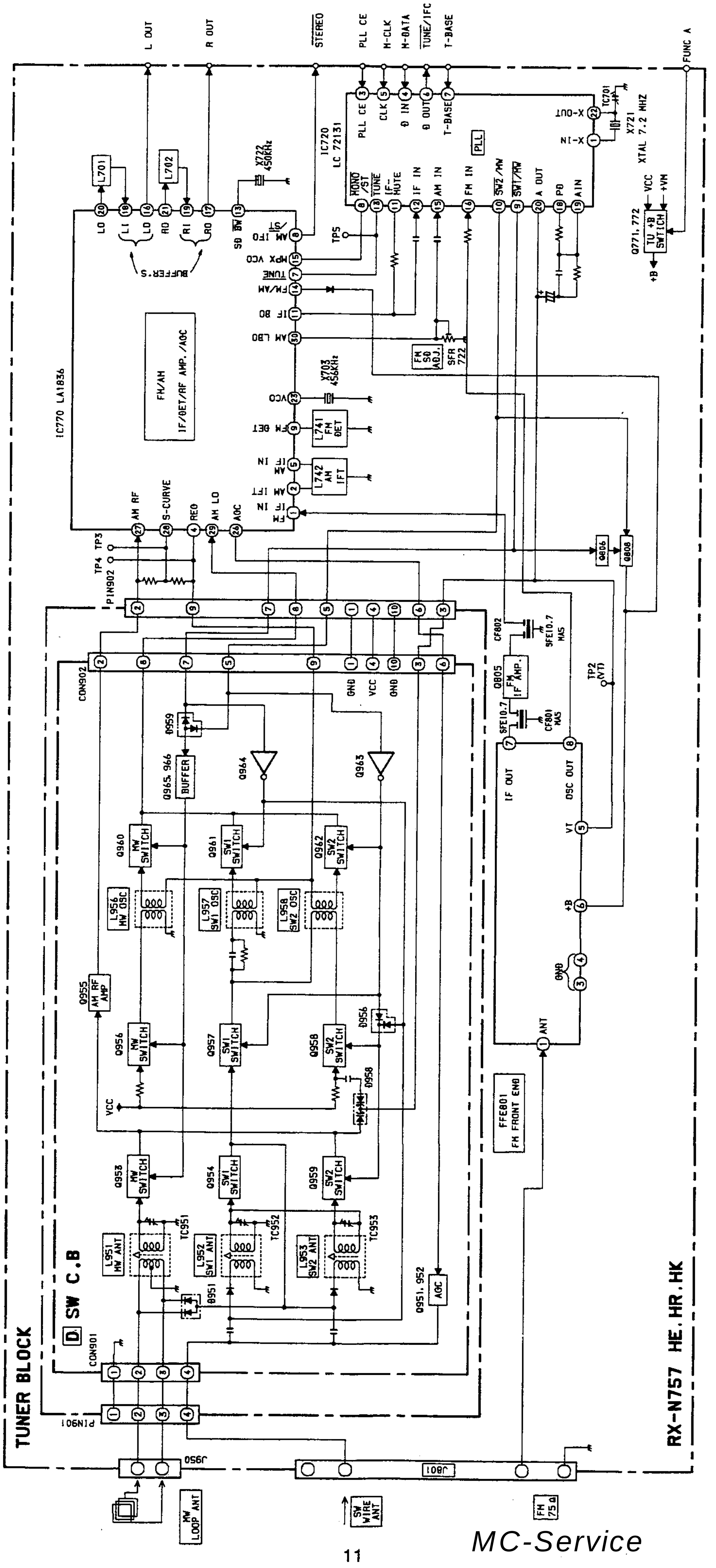
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coading



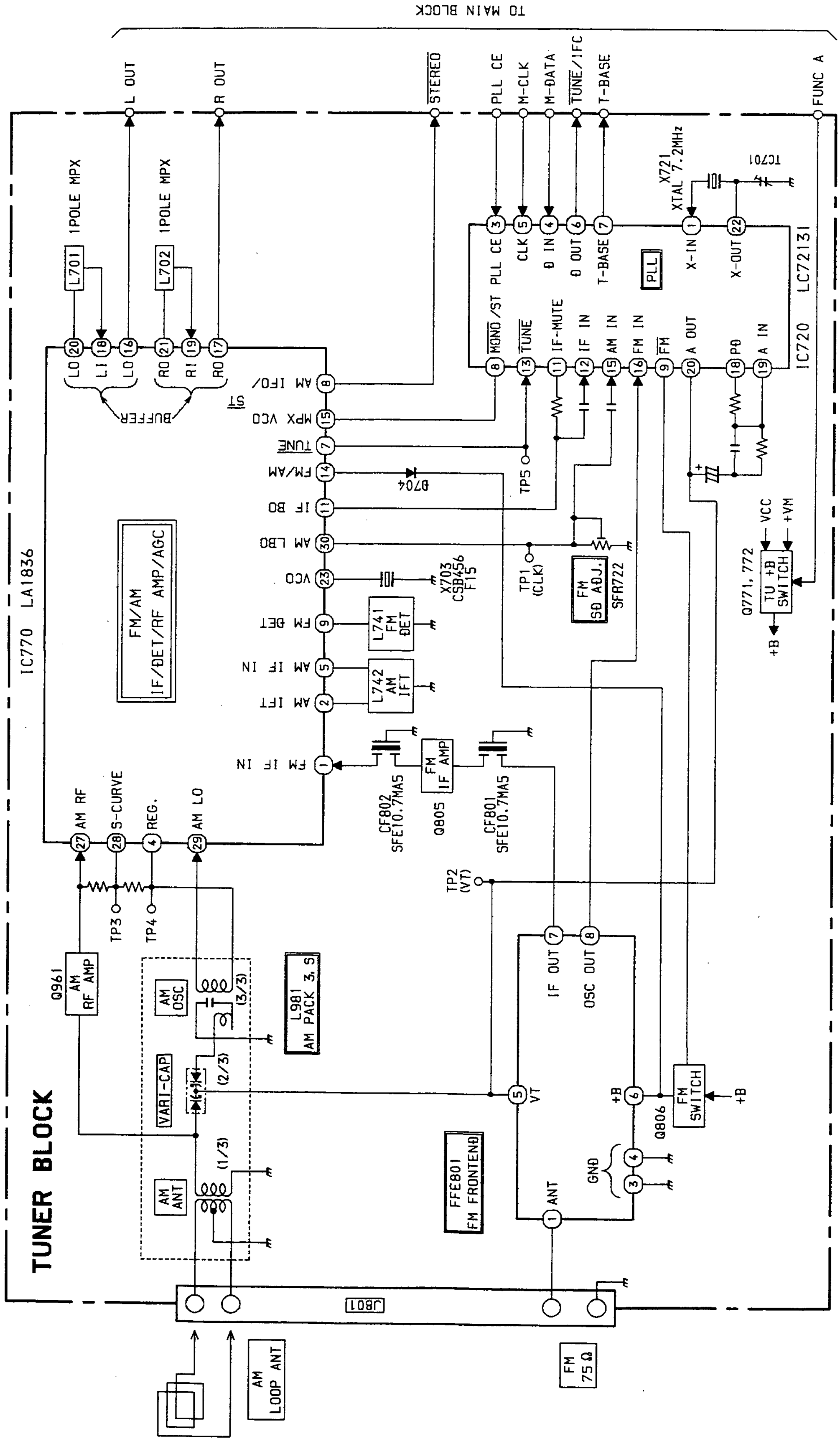
チップ抵抗
Chip resistor

| Wattage 容量 | Type 種類 | Tolerance 許容誤差 | Symbol 記号 | Dimensions／寸法 (mm) | | | | Resistor Code: A 抵抗コード ：A |
|---|---|---|---|---|---|---|---|---|
| | | | | Form／外形 | L | W | t | |
| 1／32W | 1608 | ±5% | CJ |  | 1.6 | 0.8 | 0.35 | 108 |
| 1／10W | 2125 | ±5% | CJ | | 2 | 1.25 | 1.45 | 118 |
| 1／8W | 3216 | ±5% | CJ | | 3.2 | 1.6 | 0.5 ~0.7 | 128 |

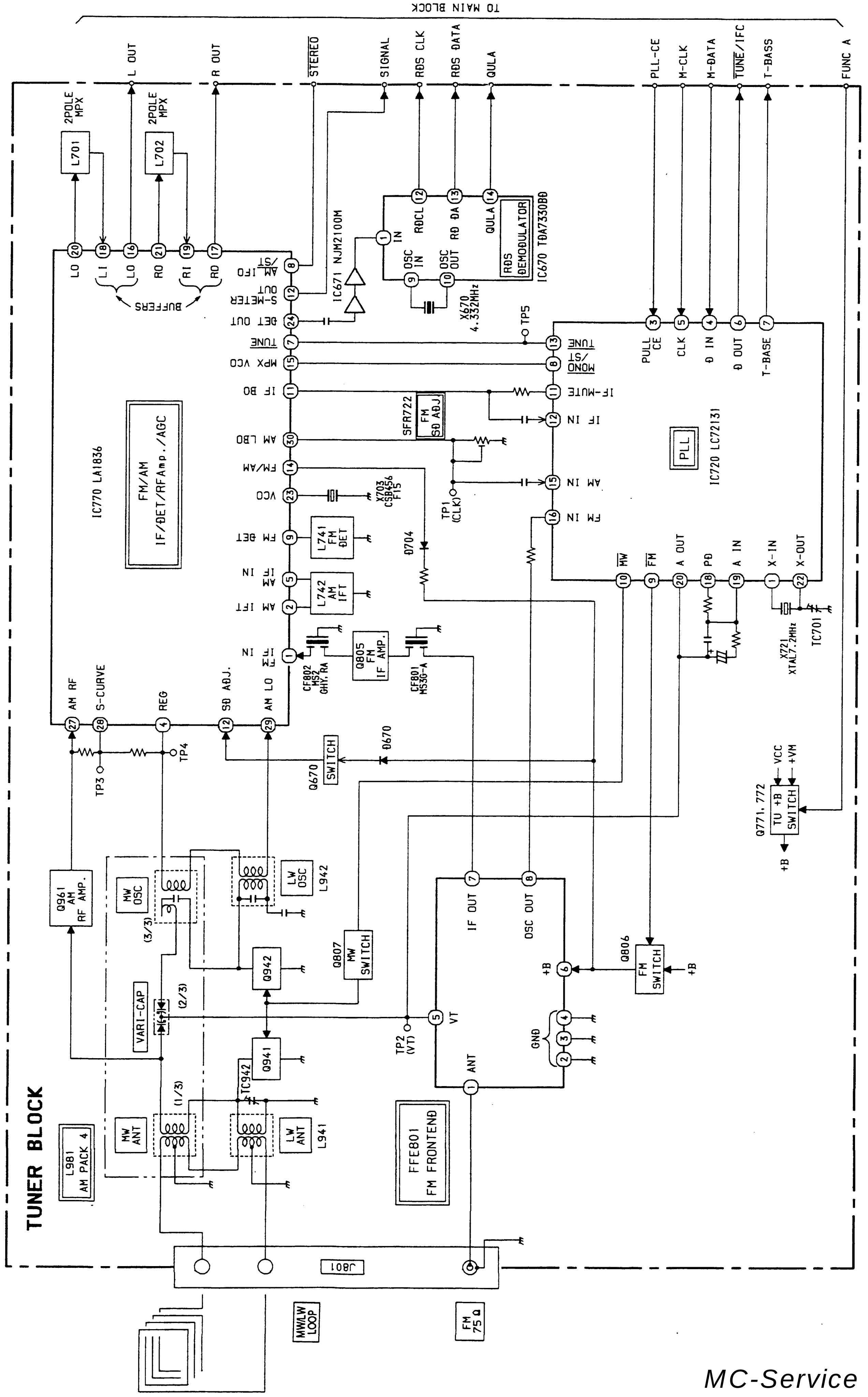
# BLOCK DIAGRAM-1 (TUNER: HE, HR, HK)


TUNER BLOCK
RX-N757 HE.HR.HK
L OUT
R OUT
STEREO
PLL CE
M-CLK
M-DATA
TUNE/IFC
T-BASE
FUNC A
IC770 LA1836
FM/AM IF/DET/RF AMP./AGC
IC720 LC 72131
PLL
L701
L702
X722 450KHz
X703 456KHz
X721 XTAL 7.2 MHZ
TC701
X-IN
X-OUT
LO
LI
RO
RI
BUFFER'S
SD BW
AM IFO
MPX VCO
TUNE
FM/AM
IF BO
AM LBO
VCO
FM DET
AM IF IN
AM IFT
FM IF IN
AM RF
S-CURVE
REO
AM LO
AGC
MONO /ST
IF-MUTE
IF IN
AM IN
FM IN
SW2/MW
SW1/MW
A OUT
PD
AIN
CLK
D IN
D OUT
T-BASE
TP5
TP3
TP4
L741 FM DET
L742 AM IFT
FM SD ADJ.
SFR 722
Q771, 772
TU +B SWITCH
VCC
+VM
+B
Q806
Q808
PIN902
CON902
GND
VCC
GND
CF802
SFE10.7 MA5
Q805 FM IF AMP.
TP2 (VT)
SFE10.7
CF801 MA5
IF OUT
OSC OUT
VT
+B
GND
ANT
FFE801 FM FRONT END
Q959
Q965, 966 BUFFER
Q964
Q963
Q960 MW SWITCH
Q961 SW1 SWITCH
Q962 SW2 SWITCH
L956 MW OSC
L957 SW1 OSC
L958 SW2 OSC
Q955 AM RF AMP
Q956 MW SWITCH
Q957 SW1 SWITCH
Q958 SW2 SWITCH
Q956
Q958
VCC
Q953 MW SWITCH
Q954 SW1 SWITCH
Q959 SW2 SWITCH
L951 MW ANT
L952 SW1 ANT
L953 SW2 ANT
TC951
TC952
TC953
Q951
Q951, 952
AGC
D SW C.B
CON901
PIN901
J950
J801
MW LOOP ANT
SW WIRE ANT
FM 75Ω

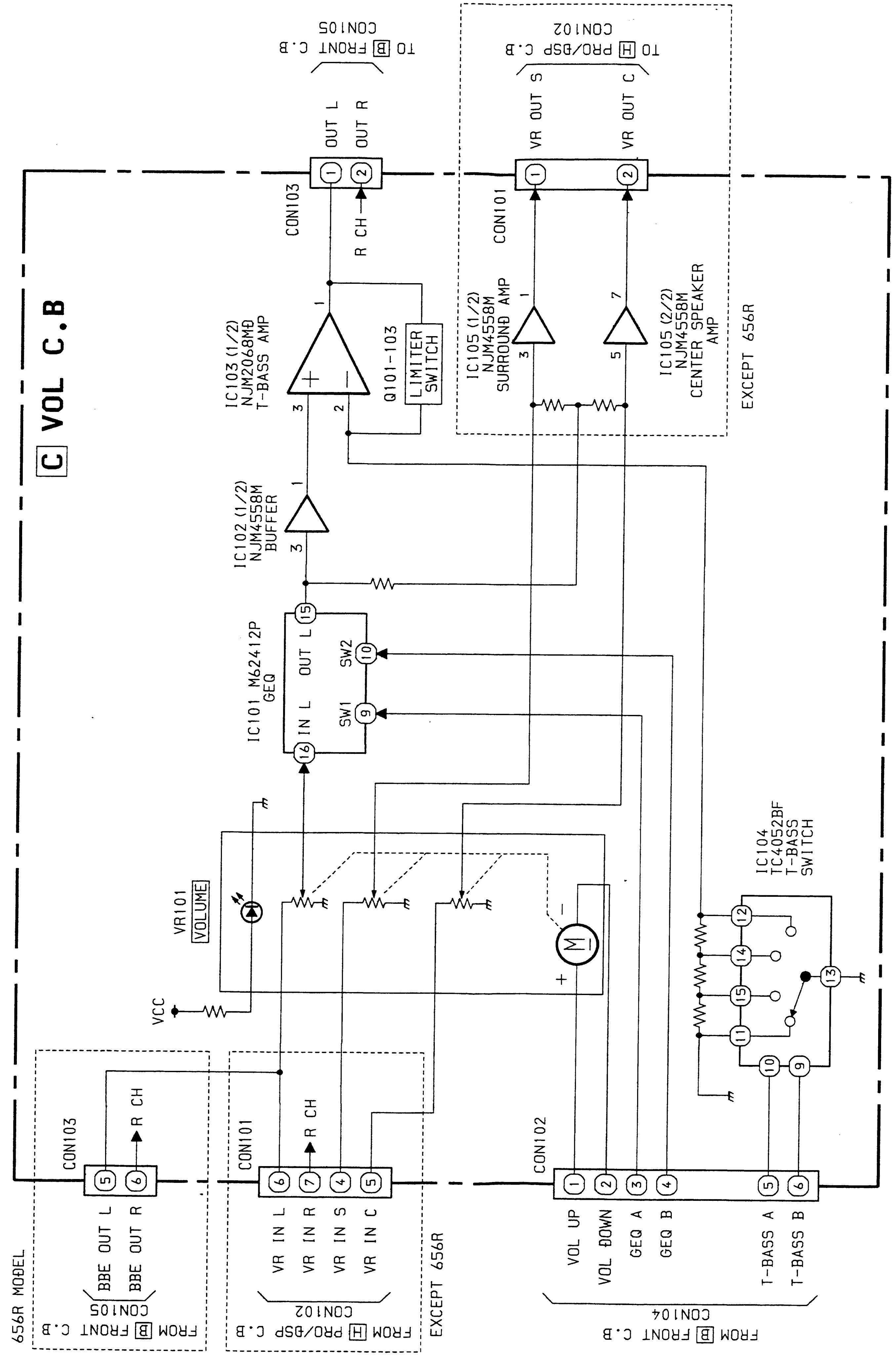
# BLOCK DIAGRAM-2 (TUNER: LH, U)


TO MAIN BLOCK
L OUT
R OUT
STEREO
PLL CE
M-CLK
M-DATA
TUNE/IFC
T-BASE
FUNC A
TUNER BLOCK
IC770 LA1836
FM/AM
IF/DET/RF AMP/AGC
L701 1POLE MPX
L702 1POLE MPX
BUFFER
LO 20
LI 18
LO 16
RO 21
RI 19
RO 17
AM IFO/ST 8
MPX VCO 15
TUNE 7
FM/AM 14
IF BO 11
AM LBO 30
VCO 23
FM DET 6
AM IF IN 5
AM IFT 2
FM IF IN 1
AM RF 27
S-CURVE 28
REG. 4
AM LO 29
D704
TP5
TP1 (CLK)
X703 CSB456 F15
FM SD ADJ. SFR722
L741 FM DET
L742 AM IFT
CF802 SFE10.7MA5
Q805 FM IF AMP
CF801 SFE10.7MA5
TP2 (VT)
TP3
TP4
Q961 AM RF AMP
L981 AM PACK 3, 5
AM OSC
VARI-CAP
AM ANT
(3/3)
(2/3)
(1/3)
IC720 LC72131
PLL
MONO/ST 8
TUNE 13
IF-MUTE 11
IF IN 12
AM IN 15
FM IN 16
FM 9
A OUT 20
PD 18
A IN 19
PLL CE 3
CLK 5
D IN 4
D OUT 6
T-BASE 7
X-IN 1
X-OUT 22
X721 XTAL 7.2MHz
TC701
Q771, 772 TU +B SWITCH
VCC
+VM
+B
FFE801 FM FRONTEND
IF OUT 7
OSC OUT 8
VT 5
+B 6
GND 4 3
ANT 1
Q806 FM SWITCH
+B
J801
AM LOOP ANT
FM 75 Ω

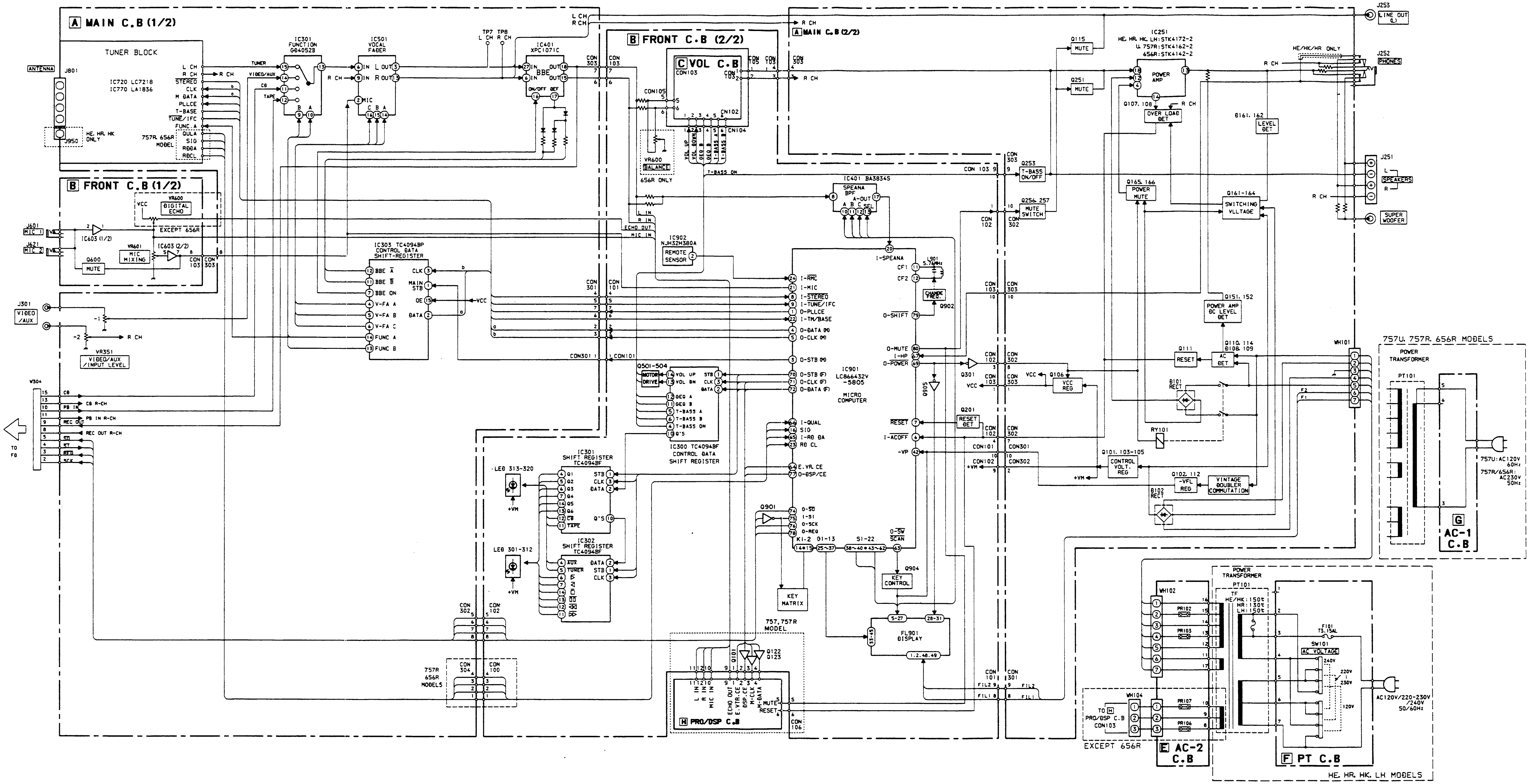
## BLOCK DIAGRAM-3 (TUNER: 757R/656R)


TO MAIN BLOCK
L OUT
R OUT
STEREO
SIGNAL
RDS CLK
RDS DATA
QULA
PLL-CE
M-CLK
M-DATA
TUNE/IFC
T-BASS
FUNC A
2POLE MPX
L701
L702
BUFFERS
IC671 NJM2100M
RDS DEMODULATOR
IC670 TDA7330BD
X670 4.332MHz
TP5
IC770 LA1836
FM/AM IF/DET/RFAmp./AGC
SFR722 FM SD ADJ
X703 CSB456 F15
TP1 (CLK)
D704
L741 FM DET
L742 AM IFT
CF802 HS2 QHY.RA
Q805 FM IF AMP.
CF801 HS5G-A
PLL
IC720 LC72131
X721 XTAL7.2MHz
TC701
AM RF
S-CURVE
REG
SD ADJ.
AM LO
TP3
TP4
Q670 SWITCH
D670
Q771, 772 TU +B SWITCH
VCC
+VM
+B
Q961 AM RF AMP.
MW OSC
LW OSC
L942
Q942
Q941
Q807 MW SWITCH
VARI-CAP
TC942
IF OUT
OSC OUT
VT
TP2 (VT)
ANT
GND
Q806 FM SWITCH
FFE801 FM FRONTEND
MW ANT
LW ANT
L941
L981 AM PACK 4
TUNER BLOCK
J801
MW/LW LOOP
FM 75Ω

## BLOCK DIAGRAM-4 (VOLUME)

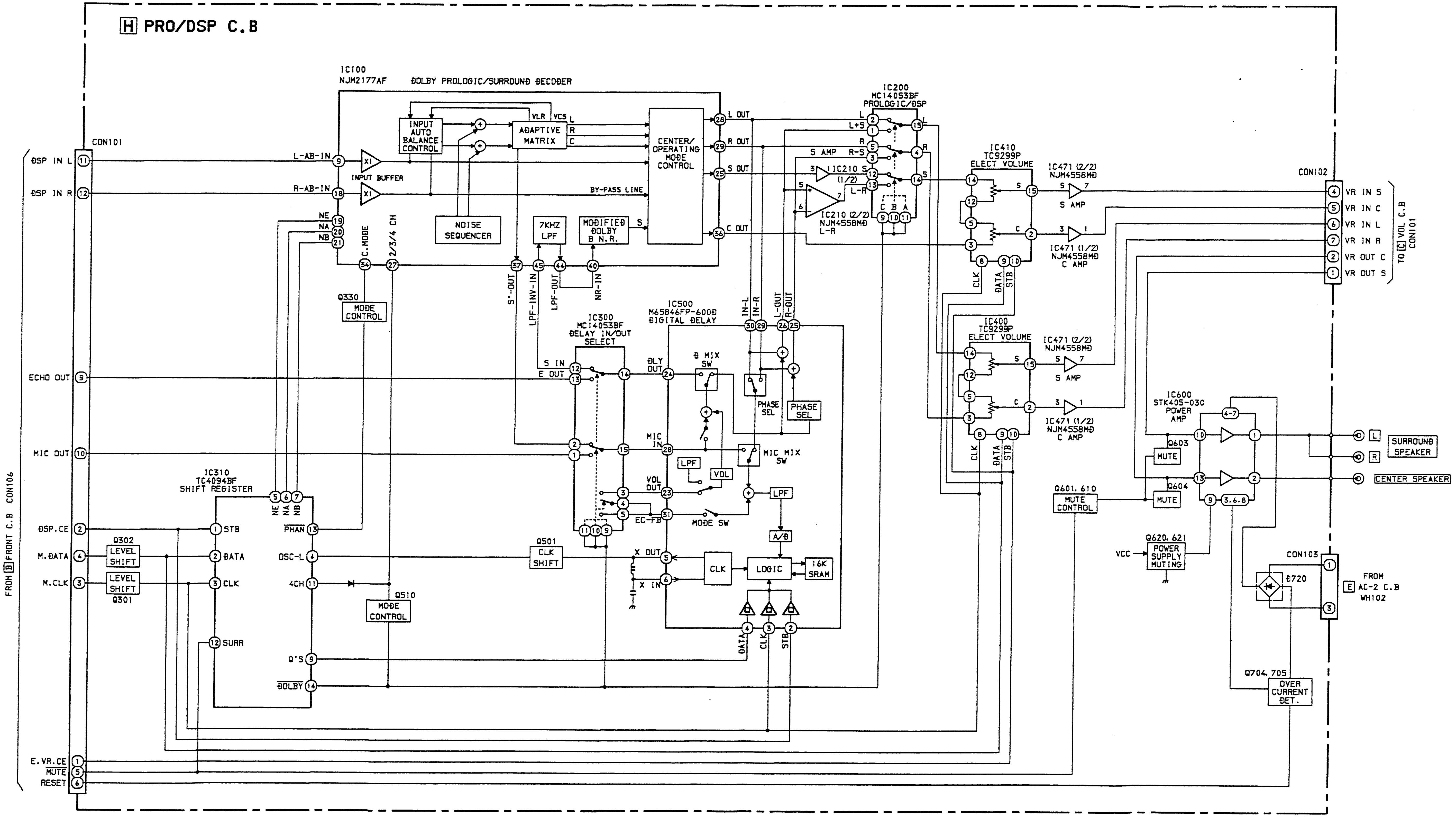

TO B FRONT C.B CON105
TO H PRO/DSP C.B CON102
OUT L
OUT R
CON103
R CH
VR OUT S
VR OUT C
CON101
IC103 (1/2) NJM2068MD T-BASS AMP
Q101-103 LIMITER SWITCH
IC105 (1/2) NJM4558M SURROUND AMP
IC105 (2/2) NJM4558M CENTER SPEAKER AMP
EXCEPT 656R
C VOL C.B
IC102 (1/2) NJM4558M BUFFER
IC101 M62412P GEQ
IN L
OUT L
SW1
SW2
VR101 VOLUME
VCC
M
IC104 TC4052BF T-BASS SWITCH
656R MODEL
CON103
BBE OUT L
BBE OUT R
FROM B FRONT C.B CON105
CON101
VR IN L
VR IN R
VR IN S
VR IN C
FROM H PRO/DSP C.B CON102
EXCEPT 656R
CON102
VOL UP
VOL DOWN
GEQ A
GEQ B
T-BASS A
T-BASS B
FROM B FRONT C.B CON104

# BLOCK DIAGRAM-5 (MAIN)


A MAIN C.B (1/2)
TUNER BLOCK
IC720 LC7218
IC770 LA1836
ANTENNA
J801
J950
HE, HR, HK ONLY
757R, 656R MODEL
B FRONT C.B (1/2)
VR600 DIGITAL ECHO
EXCEPT 656R
IC603 (1/2)
IC603 (2/2)
VR601 MIC MIXING
Q600 MUTE
MIC 1
MIC 2
J301 VIDEO /AUX
VR351 VIDEO/AUX /INPUT LEVEL
W304
TO FD
IC301 FUNCTION G04052B
IC501 VOCAL FADER
IC401 XPC1071C
BBE
TP7 TP8 L CH R CH
B FRONT C.B (2/2)
C VOL C.B
VR600 BALANCE
656R ONLY
IC303 TC4094BP CONTROL DATA SHIFT-REGISTER
IC902 NJM32M380A
REMOTE SENSOR
IC401 BA3834S
SPEANA BPF
Q501-504
MOTOR DRIVE
IC300 TC4094BF CONTROL DATA SHIFT REGISTER
IC301 SHIFT REGISTER TC4094BF
IC302 SHIFT REGISTER TC4094BF
LED 313-320
LED 301-312
IC901 LC866432V -5805 MICRO COMPUTER
Q901
KEY MATRIX
Q904 KEY CONTROL
FL901 DISPLAY
Q902
Q905
757, 757R MODEL
Q122 Q123
H PRO/DSP C.B
757R 656R MODELS
A MAIN C.B (2/2)
Q115 MUTE
Q251 MUTE
IC251
HE, HR, HK, LH: STK4172-2
U, 757R: STK4162-2
656R: STK4142-2
POWER AMP
Q107, 108 OVER LOAD DET
Q161, 162 LEVEL DET
Q253 T-BASS ON/OFF
Q256, 257 MUTE SWITCH
Q165, 166 POWER MUTE
Q161-164 SWITCHING VLLTAGE
Q151, 152 POWER AMP DC LEVEL DET
Q110, 114 Q108, 109
AC DET
Q111 RESET
Q106 VCC REG
Q301
Q201 RESET DET
D101 RECT
RY101
Q101, 103-105 CONTROL VOLT. REG
Q102, 112 -VFL REG
VINTAGE DOUBLER COMMUTATION
D102 RECT
HE/HK/HR ONLY
J253 LINE OUT (L)
J252 PHONES
J251 SPEAKERS
SUPER WOOFER
757U, 757R, 656R MODELS
POWER TRANSFORMER
PT101
757U: AC120V 60Hz
757R/656R: AC230V 50Hz
G AC-1 C.B
WH101
WH102
WH104
TO H PRO/DSP C.B CON103
EXCEPT 656R
E AC-2 C.B
POWER TRANSFORMER PT101
TF HE/HK: 150℃ HR: 130℃ LH: 150℃
F101 T3.15AL
SW101 AC VOLTAGE
AC120V/220-230V /240V 50/60Hz
F PT C.B
HE, HR, HK, LH MODELS

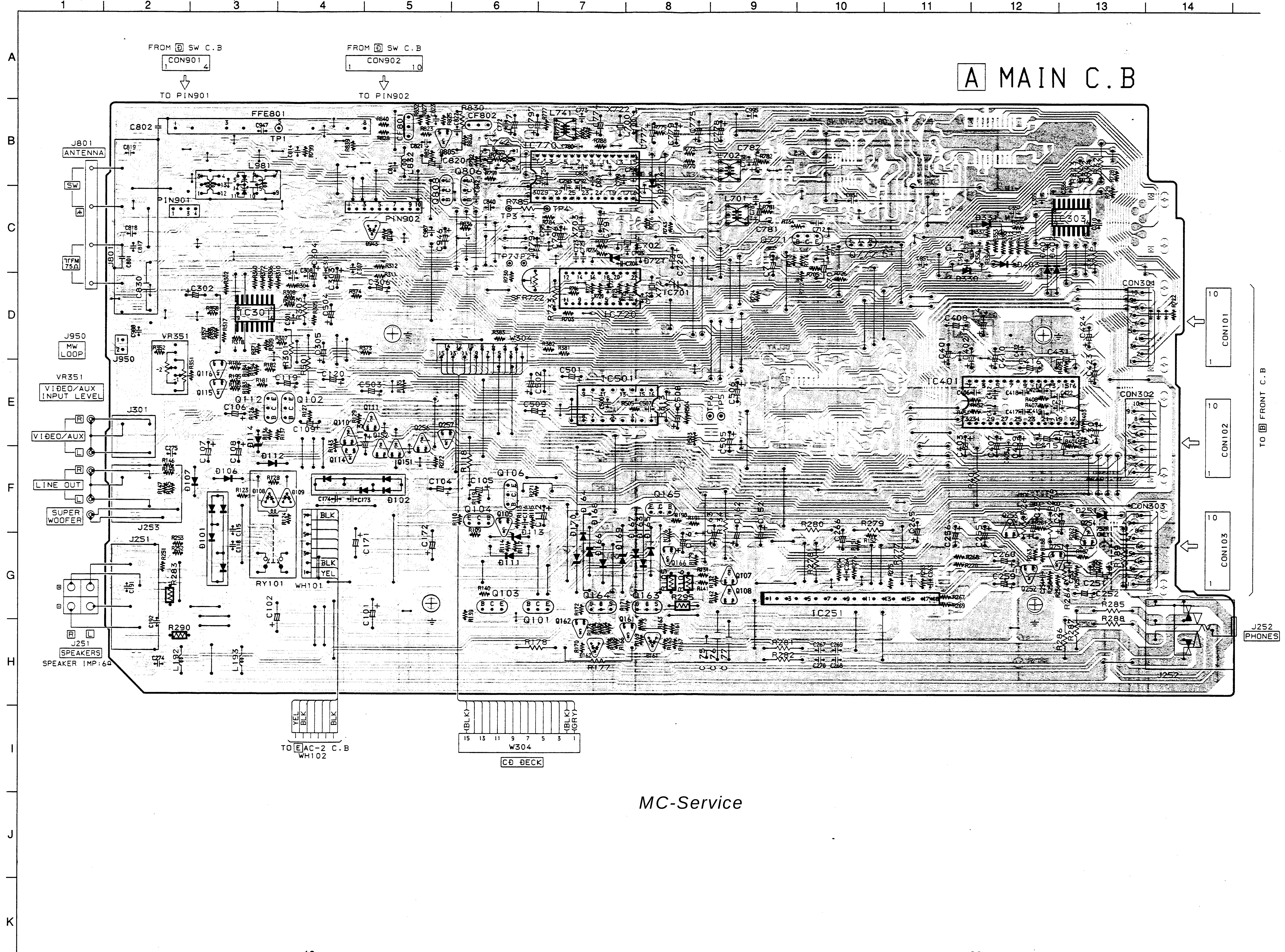
MC-Service

# BLOCK DIAGRAM-6 (PRO ⁄ DSP: 757, 757R MODELS)

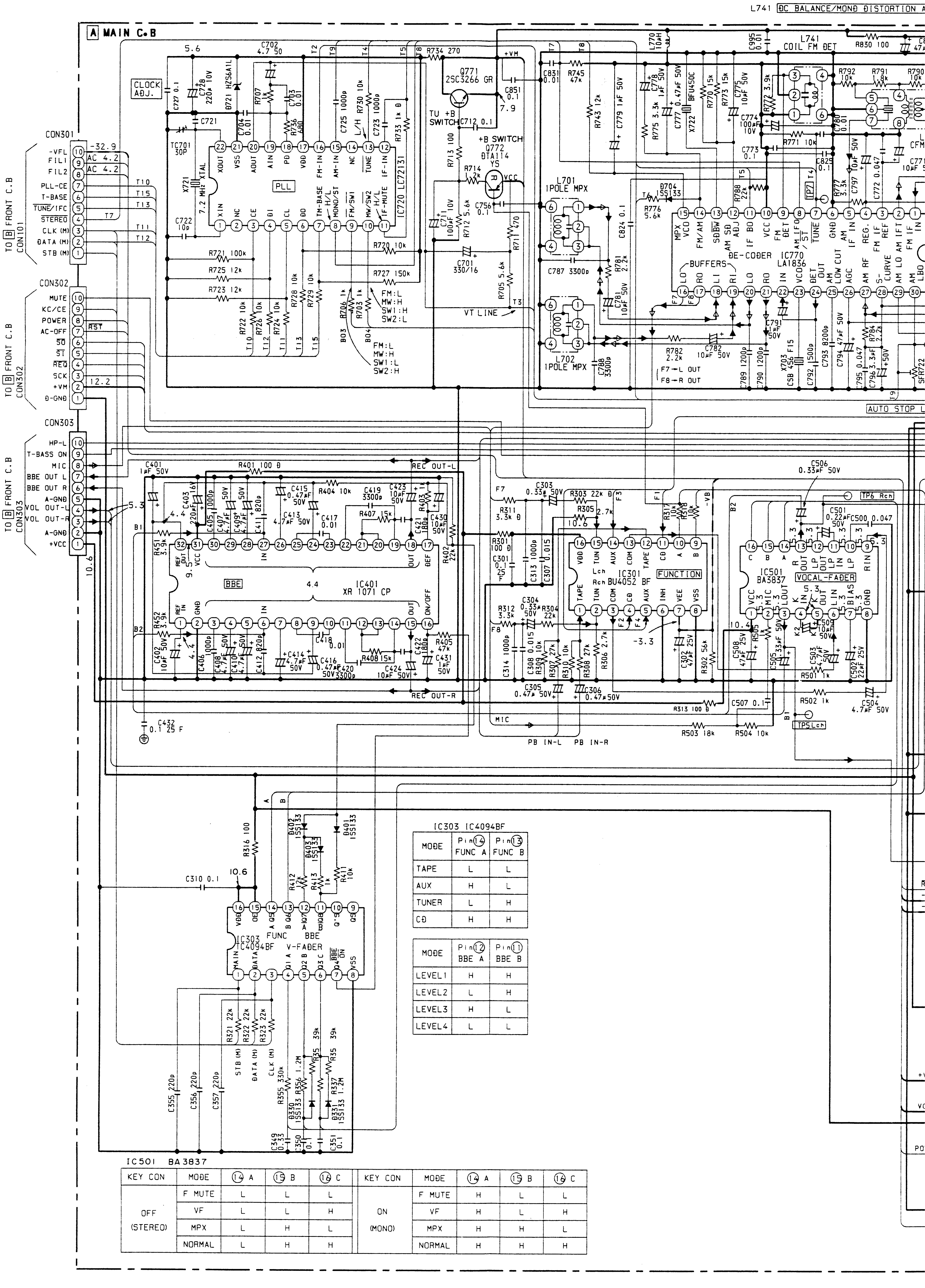

H PRO/DSP C.B
IC100
NJM2177AF
DOLBY PROLOGIC/SURROUND DECODER
INPUT AUTO BALANCE CONTROL
ADAPTIVE MATRIX
VLR
VCS
L
R
C
CENTER/ OPERATING MODE CONTROL
INPUT BUFFER
X1
L-AB-IN
R-AB-IN
BY-PASS LINE
NOISE SEQUENCER
7KHZ LPF
MODIFIED DOLBY B N.R.
S
L OUT
R OUT
S OUT
C OUT
NE
NA
NB
C.MODE
2/3/4 CH
S'-OUT
LPF-INV-IN
LPF-OUT
NR-IN
Q330
MODE CONTROL
CON101
DSP IN L
DSP IN R
ECHO OUT
MIC OUT
DSP.CE
M.DATA
M.CLK
E.VR.CE
MUTE
RESET
FROM B FRONT C.B CON106
Q302
LEVEL SHIFT
Q301
IC310
TC4094BF
SHIFT REGISTER
STB
DATA
CLK
SURR
PHAN
OSC-L
4CH
Q'S
DOLBY
Q510
MODE CONTROL
IC300
MC14053BF
DELAY IN/OUT SELECT
S IN
E OUT
Q501
CLK SHIFT
IC500
M65846FP-600D
DIGITAL DELAY
DLY OUT
D MIX SW
MIC IN
LPF
VOL
VOL OUT
EC-FB
MODE SW
MIC MIX SW
PHASE SEL
IN-L
IN-R
L-OUT
R-OUT
X OUT
X IN
CLK
LOGIC
16K SRAM
A/D
IC200
MC14053BF
PROLOGIC/DSP
L+S
R-S
S AMP
IC210 (1/2)
IC210 (2/2)
NJM4558MD
L-R
C B A
IC410
TC9299P
ELECT VOLUME
IC400
TC9299P
ELECT VOLUME
IC471 (2/2)
NJM4558MD
S AMP
IC471 (1/2)
NJM4558MD
C AMP
CON102
VR IN S
VR IN C
VR IN L
VR IN R
VR OUT C
VR OUT S
TO C VOL C.B CON101
IC600
STK405-03C
POWER AMP
Q603
MUTE
Q604
Q601, 610
MUTE CONTROL
Q620, 621
POWER SUPPLY MUTING
VCC
L
R
SURROUND SPEAKER
CENTER SPEAKER
CON103
D720
FROM E AC-2 C.B WH102
Q704, 705
OVER CURRENT DET.

MC-Service

WIRING-1 (MAIN: 757 HE, HK, HR)


A MAIN C.B
FROM D SW C.B
CON901
TO PIN901
FROM D SW C.B
CON902
TO PIN902
J801
ANTENNA
SW
FM 75Ω
J950
MW LOOP
VR351
VIDEO/AUX INPUT LEVEL
J301
VIDEO/AUX
LINE OUT
SUPER WOOFER
J253
J251
SPEAKERS
SPEAKER IMP:6Ω
FFE801
PIN901
PIN902
IC301
IC501
IC401
IC251
IC720
IC770
IC303
RY101
WH101
BLK
YEL
TO E AC-2 C.B
WH102
W304
CD DECK
CON301
CON302
CON303
CON101
CON102
CON103
TO B FRONT C.B
J252
PHONES
1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
K

## SCHEMATIC DIAGRAM-1 (MAIN: 757 HE, HK, HR)


L741 DC BALANCE/MONO DISTORTION
A MAIN C.B
CON301
TO B FRONT C.B CON101
-VFL
FIL1
FIL2
PLL-CE
T-BASE
TUNE/IFC
STEREO
CLK (M)
DATA (M)
STB (M)
-32.9
AC 4.2
AC 4.2
CON302
TO B FRONT C.B CON302
MUTE
KC/CE
POWER
AC-OFF
SD
ST
REQ
SCK
+VM
D-GND
RST
12.2
CON303
TO B FRONT C.B CON303
HP-L
T-BASS ON
MIC
BBE OUT L
BBE OUT R
A-GND
VOL OUT-L
VOL OUT-R
A-GND
+VCC
5.3
10.6
CLOCK ADJ.
PLL
IC720 LC72131
X721 7.2 MHz XTAL
Q771 2SC3266 GR
Q772 DTA114 YS
TU +B SWITCH
+B SWITCH
+VM
7.9
VT LINE
FM:L MW:H SW1:H SW2:L
L701 1POLE MPX
L702 1POLE MPX
L741 COIL FM DET
DE-CODER IC770 LA1836
BUFFERS
F7-L OUT
F8-R OUT
AUTO STOP L
REC OUT-L
REC OUT-R
BBE
IC401 XR 1071 CP
4.4
FUNCTION
Lch Rch IC301 BU4052 BF
-3.3
MIC
PB IN-L
PB IN-R
IC501 BA3837
VOCAL-FADER
TP6 Rch
TP5 Lch
IC303 TC4094BF
FUNC
BBE
V-FADER
STB (M)
DATA (M)
CLK (M)
10.6

IC303 IC4094BF

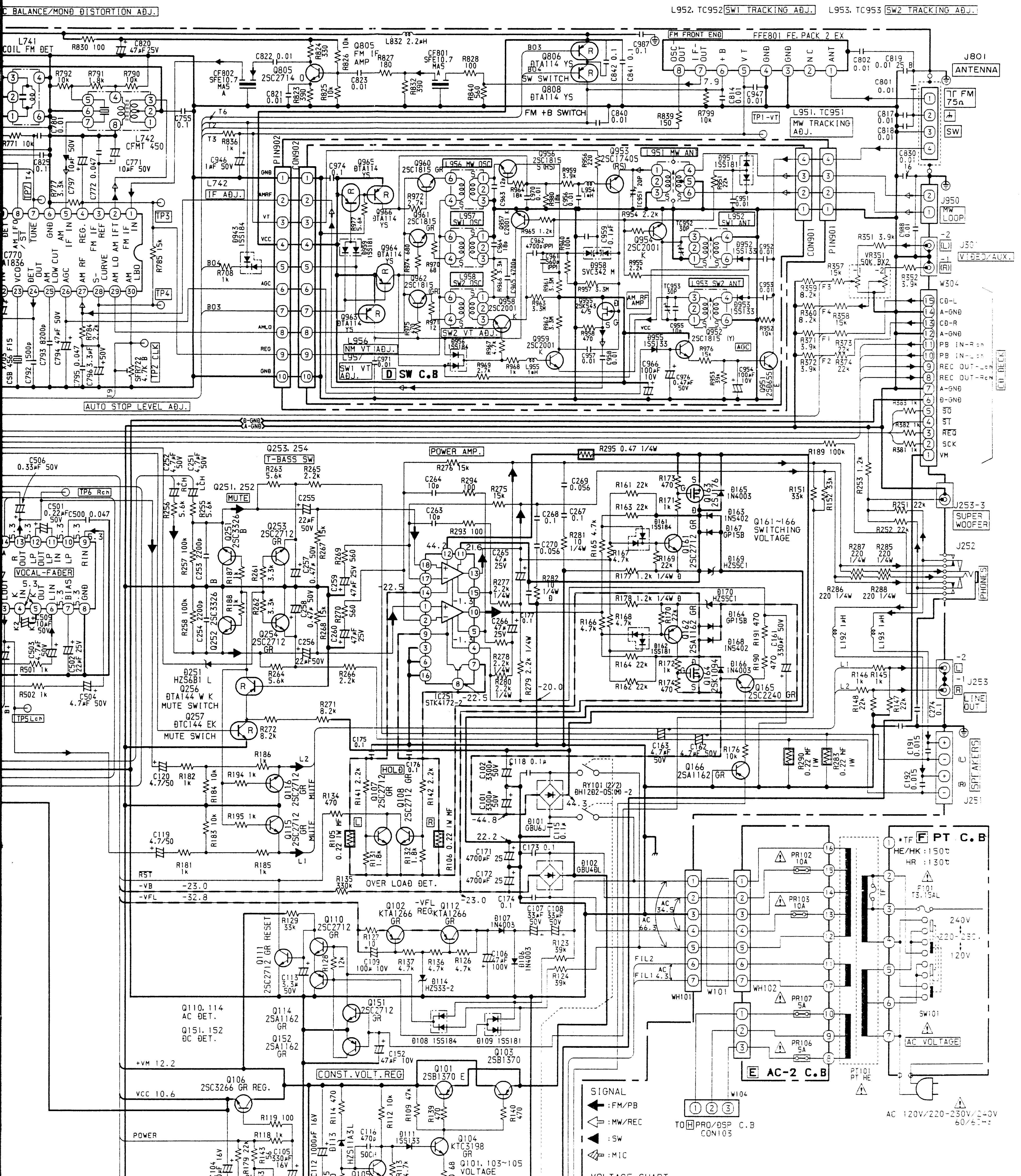
| MODE | Pin⑭ FUNC A | Pin⑬ FUNC B |
|---|---|---|
| TAPE | L | L |
| AUX | H | L |
| TUNER | L | H |
| CD | H | H |

| MODE | Pin⑫ BBE A | Pin⑪ BBE B |
|---|---|---|
| LEVEL1 | H | H |
| LEVEL2 | L | H |
| LEVEL3 | H | L |
| LEVEL4 | L | L |

IC501 BA3837

| KEY CON | MODE | ⑭ A | ⑮ B | ⑯ C | KEY CON | MODE | ⑭ A | ⑮ B | ⑯ C |
|---|---|---|---|---|---|---|---|---|---|
| OFF (STEREO) | F MUTE | L | L | L | ON (MONO) | F MUTE | H | L | L |
| | VF | L | L | H | | VF | H | L | H |
| | MPX | L | H | L | | MPX | H | H | L |
| | NORMAL | L | H | H | | NORMAL | H | H | H |

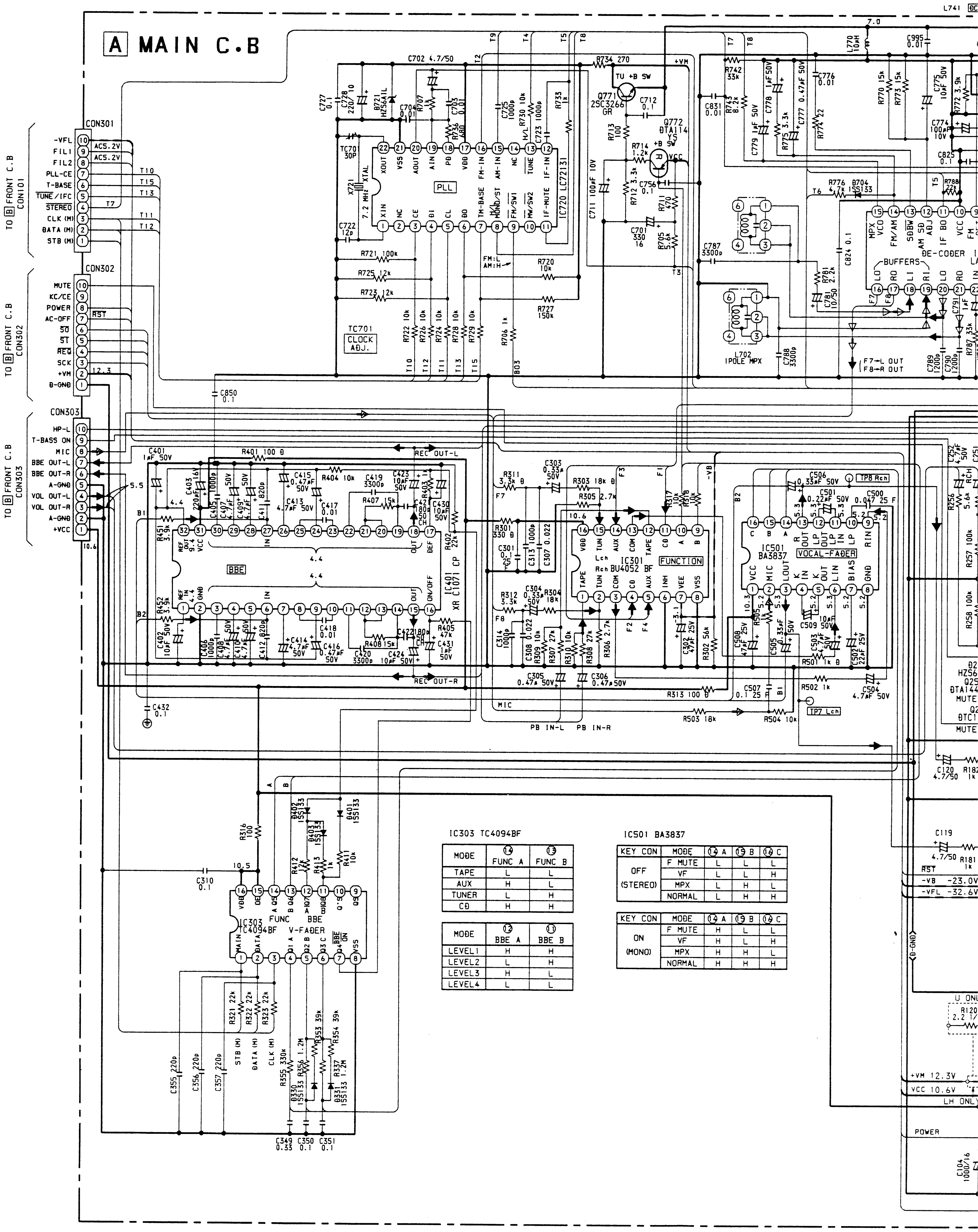
1553


BALANCE/MONO DISTORTION ADJ.
L952, TC952 SW1 TRACKING ADJ.
L953, TC953 SW2 TRACKING ADJ.
FM FRONT END
FFE801 FE PACK 2 EX
J801 ANTENNA
FM 75Ω
SW
J950 MW LOOP
L951, TC951 MW TRACKING ADJ.
FM +B SWITCH
SW SWITCH
Q805 FM IF AMP
L741 COIL FM DET
L742 IF ADJ.
L742 CFMT 450
PIN902
CON902
CON901
PIN901
D SW C.B
L956 NM VT ADJ.
L957 SW1 VT ADJ.
SW2 VT ADJ.
L951 MW ANT
L953 SW2 ANT
L952 SW1 ANT
AM RF AMP
AGC
TP3
TP4
TP7
TP2 CLK
AUTO STOP LEVEL ADJ.
J30 VIDEO/AUX.
W304
CD DECK
POWER AMP.
IC251 STK4172-2
Q253, 254 T-BASS SW
Q251, 252 MUTE
Q256 DTA144 W K MUTE SWITCH
Q257 DTC144 EK MUTE SWICH
Q161~166 SWITCHING VOLTAGE
J253-3 SUPER WOOFER
J252 PHONES
J253 LINE OUT
J251 SPEAKERS
HOLD
OVER LOAD DET.
RY101 (2/2) DH1202-0S(M) -2
RY101 (1/2) DH1202-0S (M) -2
CONST. VOLT. REG
Q110, 114 AC DET.
Q151, 152 DC DET.
Q101, 103~105 VOLTAGE CONST.
VOCAL-FADER
TP6 Rch
TP5 Lch
E AC-2 C.B
F PT C.B
*TF HE/HK : 150℃ HR : 130℃
F101 T3.15AL
PR102 10A
PR103 10A
PR107 5A
PR106 5A
240V
220-230V
120V
SW101
AC VOLTAGE
PT101 PT HE
WH101
W101
WH102
W104
AC 120V/220-230V/240V 60/60Hz
TO H PRO/DSP C.B CON103
SIGNAL
:FM/PB
:MW/REC
:SW
:MIC

VOLTAGE CHART
IC770 LA1836

| MODE \ Pin NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FM | 3.8 | 7.8 | 3.8 | 3.9 | 3.8 | 0 | H/L | 5.3 | 7.8 | 7.8 | 0.4 | 1.5 | 1.7 | 6.4 | - | 3.9 | 3.9 | 3.9 | 3.9 | 4.0 | 4.0 | 3.1 | 1.9 | 3.2 | 2.9 | 0 | 3.9 | 4.0 | 3.9 | 1.9 |
| MW | 3.7 | 7.9 | 3.7 | 3.9 | 3.7 | 0 | H/L | 5.3 | 7.9 | 7.9 | 0.4 | 0 | 1.7 | 4.0 | - | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 0 | 0.6 | 3.3 | 3.3 | 0.6 | 3.6 | 3.6 | 3.7 | 1.5 |
| SW1 | 3.8 | 7.9 | 3.8 | 3.8 | 3.8 | 0 | H/L | 5.3 | 7.9 | 7.9 | 0.4 | 0 | 1.7 | 4.0 | - | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 | 3.0 | 0.7 | 3.4 | 3.3 | 0.7 | 3.7 | 3.7 | 3.8 | 1.5 |
| SW2 | 3.9 | 7.9 | 3.9 | 3.9 | 3.9 | 0 | H/L | 5.3 | 7.9 | 7.9 | 0.4 | 0 | 1.7 | 4.0 | - | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.1 | 0.6 | 3.4 | 3.4 | 0.7 | 3.8 | 3.8 | 3.9 | 1.7 |

## SCHEMATIC DIAGRAM-2 (MAIN: 757 LH, U)


A MAIN C.B
CON301
-VFL
FIL1
FIL2
PLL-CE
T-BASE
TUNE/IFC
STEREO
CLK (M)
DATA (M)
STB (M)
TO B FRONT C.B CON101
CON302
MUTE
KC/CE
POWER
AC-OFF
SD
ST
REQ
SCK
+VM
B-GND
TO B FRONT C.B CON302
CON303
HP-L
T-BASS ON
MIC
BBE OUT-L
BBE OUT-R
A-GND
VOL OUT-L
VOL OUT-R
A-GND
+VCC
TO B FRONT C.B CON303
C702 4.7/50
R734 270
TU +B SW
Q771 2SC3266 GR
Q772 DTA114
PLL
IC720 LC72131
X721 7.2 MHz
TC701 CLOCK ADJ.
FM:L AM:H
L702 1POLE MPX
DE-CODER
BUFFERS
F7→L OUT
F8→R OUT
C850 0.1
REC OUT-L
REC OUT-R
BBE
IC401 XR C1071 CP
FUNCTION
IC301 BU4052 BF
IC501 BA3837
VOCAL-FADER
TP8 Rch
TP7 Lch
MIC
PB IN-L
PB IN-R
C432 0.1
IC303 TC4094BF
FUNC
BBE
V-FADER
C310 0.1
C349 0.33
C350 0.1
C351 0.1
U ONLY
LH ONLY
+VM 12.3V
VCC 10.6V
-VB -23.0V
-VFL -32.6V
POWER
C104 1000/16
L741
L770 10μH
C995 0.01

IC303 TC4094BF

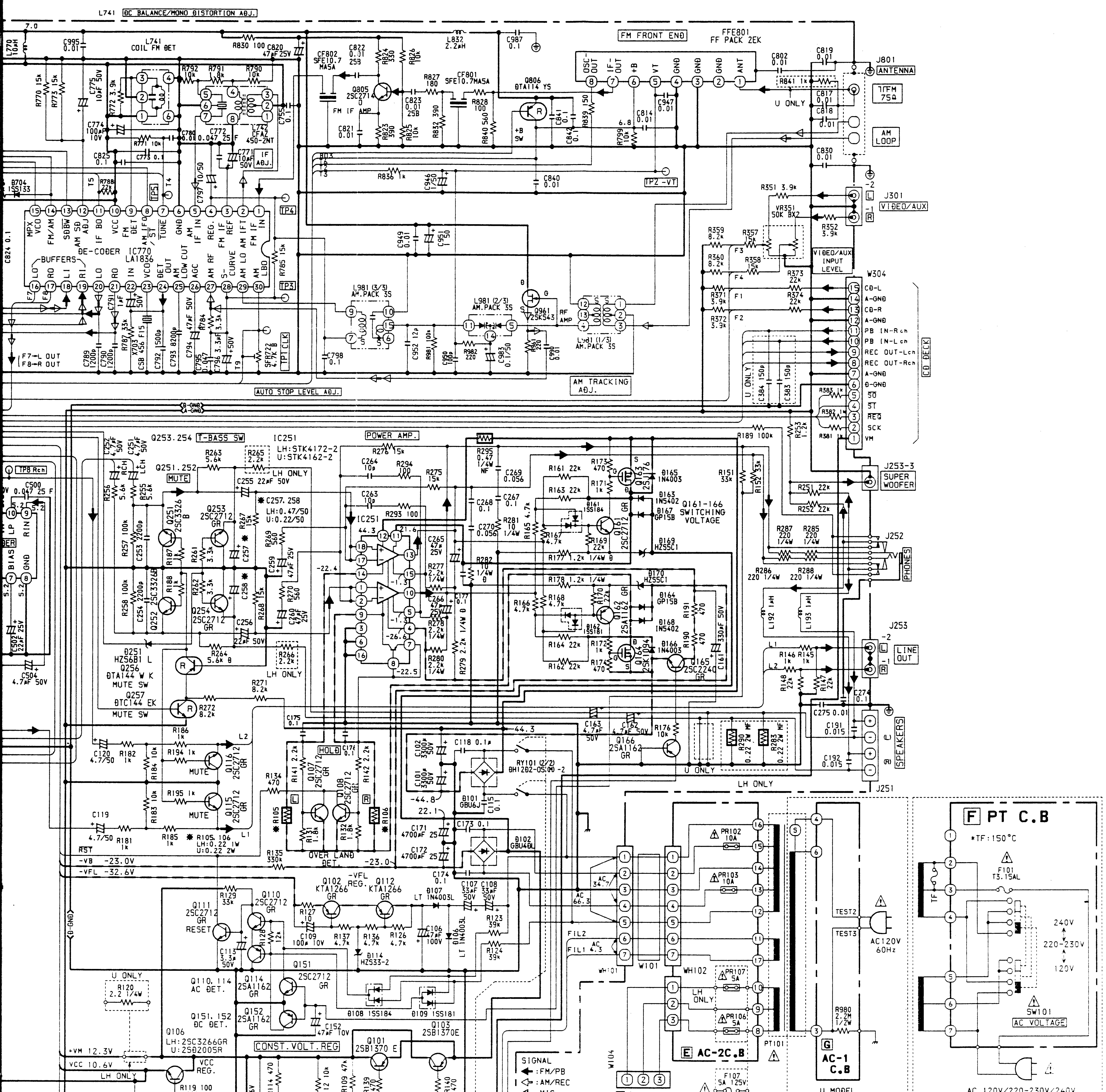
| MODE | ⑭ FUNC A | ⑬ FUNC B |
|---|---|---|
| TAPE | L | L |
| AUX | H | L |
| TUNER | L | H |
| CD | H | H |

| MODE | ⑫ BBE A | ⑪ BBE B |
|---|---|---|
| LEVEL1 | H | H |
| LEVEL2 | L | H |
| LEVEL3 | H | L |
| LEVEL4 | L | L |

IC501 BA3837

| KEY CON | MODE | ⑭ A | ⑮ B | ⑯ C |
|---|---|---|---|---|
| OFF (STEREO) | F MUTE | L | L | L |
| | VF | L | L | H |
| | MPX | L | H | L |
| | NORMAL | L | H | H |

| KEY CON | MODE | ⑭ A | ⑮ B | ⑯ C |
|---|---|---|---|---|
| ON (MONO) | F MUTE | H | L | L |
| | VF | H | L | H |
| | MPX | H | H | L |
| | NORMAL | H | H | H |

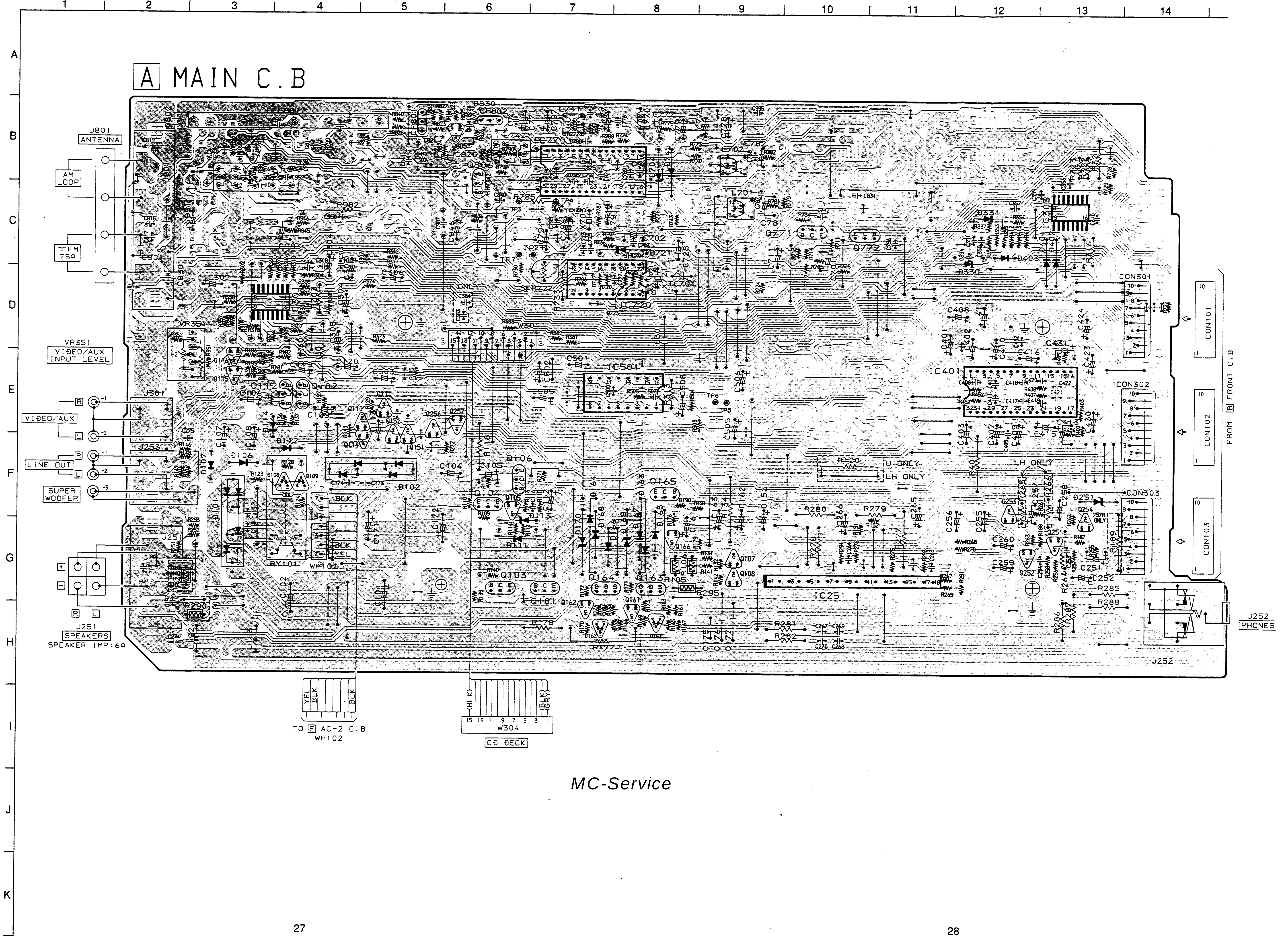

L741 DC BALANCE/MONO DISTORTION ADJ.
FM FRONT END
FFE801 FF PACK 2EK
J801 ANTENNA
FM 75Ω
AM LOOP
J301 VIDEO/AUX
VIDEO/AUX INPUT LEVEL
W304
CD DECK
DE-CODER IC770 LA1836
AUTO STOP LEVEL ADJ.
AM TRACKING ADJ.
Q253.254 T-BASS SW
Q251.252 MUTE
IC251 LH:STK4172-2 U:STK4162-2
POWER AMP.
Q161-166 SWITCHING VOLTAGE
J253-3 SUPER WOOFER
J252 PHONES
J253 LINE OUT
J251 SPEAKERS
LH ONLY
U ONLY
HOLD
OVER LOAD DET.
CONST. VOLT. REG
Q101, 103-105 VOLTAGE CONST.
E AC-2C.B
G AC-1 C.B
U MODEL
F PT C.B
*TF:150°C
F101 T3.15AL
SW101 AC VOLTAGE
240V
220-230V
120V
AC 120V/220-230V/240V 50/60Hz
LH MODEL
AC120V 60Hz
TO H PRO/DSP C.B CON103
SIGNAL
:FM/PB
:AM/REC
:MIC
VOLTAGE CHART IC770 LA1836

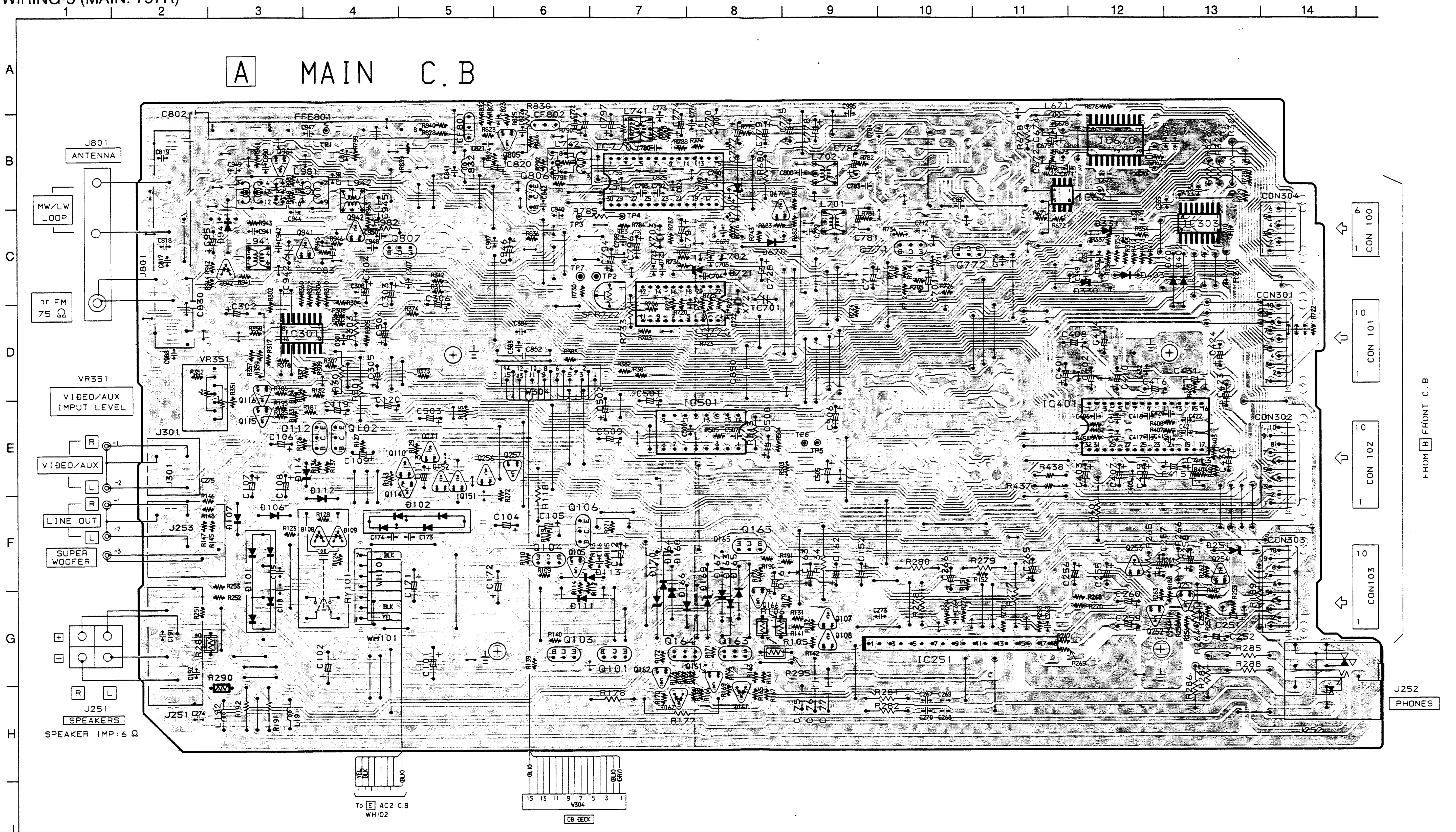
| PIN NO. / MODE | ① | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FM | 3.6 | 7.2 | 3.6 | 3.6 | 3.6 | 0 | H/L | 5.2 | 7.2 | 7.2 | 0.3 | 0.6 | 1.6 | 5.8 | - | 3.6 | 3.6 | 3.6 | 3.6 | 3.5 | 3.5 | 2.9 |
| AM | 3.5 | 7.2 | 3.5 | 3.6 | 3.5 | 0 | H/L | 5.2 | 7.2 | 7.2 | 0.3 | 0 | 1.6 | 3.5 | - | 3.6 | 3.6 | 3.6 | 3.6 | 3.5 | 3.5 | 2.8 |

| 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
|---|---|---|---|---|---|---|---|
| 2.1 | 2.9 | 2.7 | 0 | 3.7 | 3.7 | 3.6 | 1.8 |
| 0.8 | 3.2 | 3.2 | 0.6 | 3.5 | 3.5 | 3.6 | 1.4 |

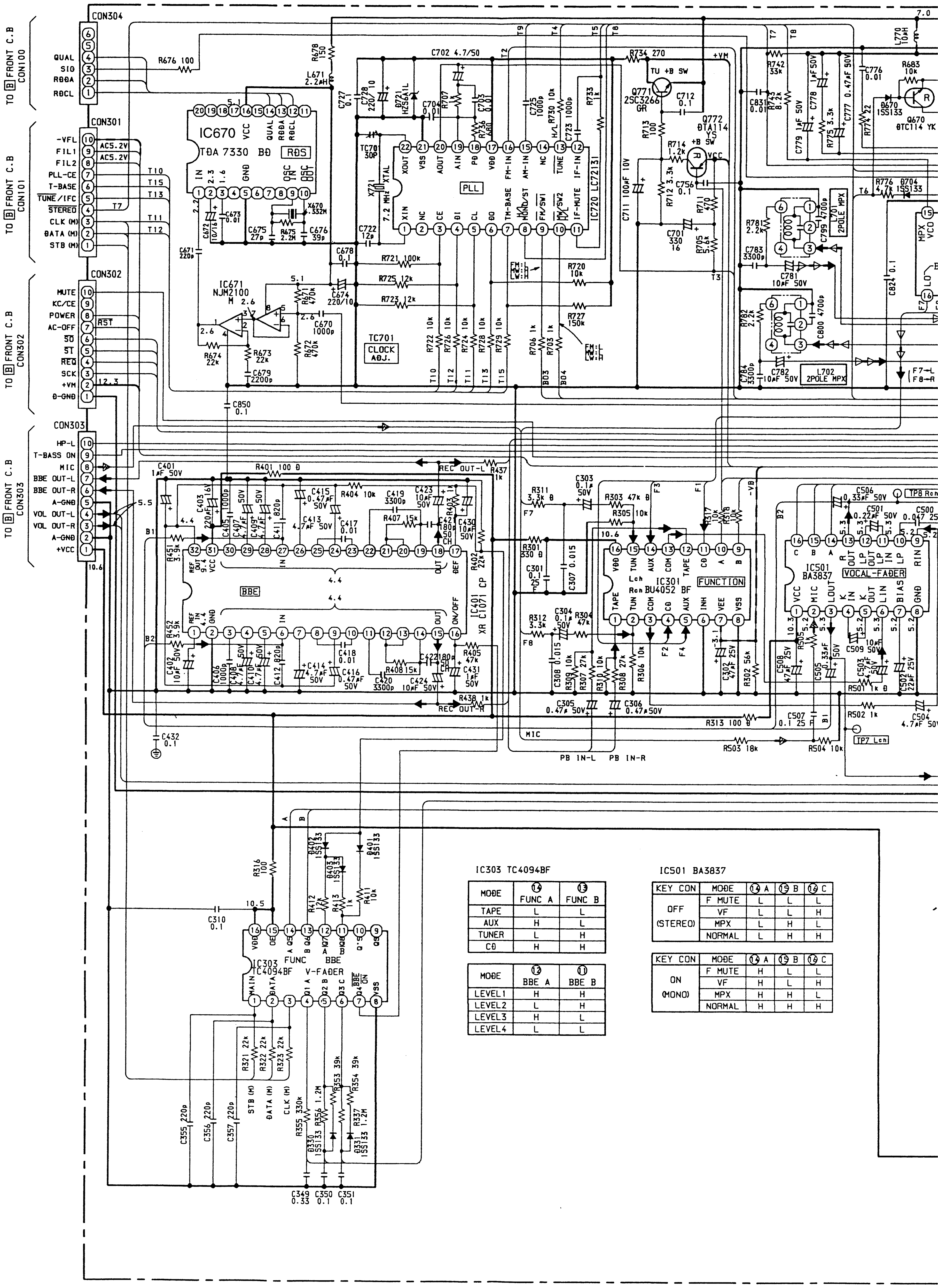
MC-Service

# WIRING-2 (MAIN: 757 LH, U)


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
K
A MAIN C.B
J801
ANTENNA
AM LOOP
FM 75Ω
VR351
VIDEO/AUX INPUT LEVEL
J301
R
VIDEO/AUX
L
J253
LINE OUT
SUPER WOOFER
J251
SPEAKERS
SPEAKER IMP: 6Ω
+
−
R L
IC720
IC770
IC501
IC401
IC251
RY101
WH101
W303
CON301
CON302
CON303
CON101
CON102
CON103
FROM B FRONT C.B
U ONLY
LH ONLY
757RI ONLY
J252
PHONES
YEL
BLK
TO E AC-2 C.B
WH102
(BLK)
(BLK) (GRY)
15 13 11 9 7 5 3 1
W304
CD DECK


A MAIN C.B
J801
ANTENNA
MW/LW
LOOP
FM
75 Ω
VR351
VIDEO/AUX
INPUT LEVEL
J301
VIDEO/AUX
R
L
LINE OUT
J253
SUPER
WOOFER
+
−
R
L
J251
SPEAKERS
SPEAKER IMP:6 Ω
J252
PHONES
CON 100
CON 101
CON 102
CON 103
FROM B FRONT C.B
CON304
CON301
CON302
CON303
IC301
IC401
IC501
IC251
IC670
IC720
IC770
RY101
WH101
To E AC2 C.B
WH102
W304
CD DECK

## SCHEMATIC DIAGRAM-3 (MAIN: 757R)


CON304
QUAL
SIG
RDDA
RDCL
TO B FRONT C.B CON100
CON301
-VFL
FIL1
FIL2
PLL-CE
T-BASE
TUNE/IFC
STEREO
CLK (M)
DATA (M)
STB (M)
TO B FRONT C.B CON101
CON302
MUTE
KC/CE
POWER
AC-OFF
SD
ST
REQ
SCK
+VM
D-GND
TO B FRONT C.B CON302
CON303
HP-L
T-BASS ON
MIC
BBE OUT-L
BBE OUT-R
A-GND
VOL OUT-L
VOL OUT-R
A-GND
+VCC
TO B FRONT C.B CON303
IC670 TDA 7330 BD
RDS
IC671 NJM2100
TC701 CLOCK ADJ.
PLL
IC720 LC72131
Q771 2SC3266 GR
Q772 DTA114YS
TU +B SW
+B SW
L701 2POLE MPX
L702 2POLE MPX
Q670 DTC114 YK
BBE
IC401 XR C1071 CP
REC OUT-L
REC OUT-R
IC301 BU4052 BF
FUNCTION
IC501 BA3837
VOCAL-FADER
TP8 Rch
TP7 Lch
MIC
PB IN-L
PB IN-R
IC303 TC4094BF
FUNC
BBE
V-FADER
STB (M)
DATA (M)
CLK (M)

IC303 TC4094BF

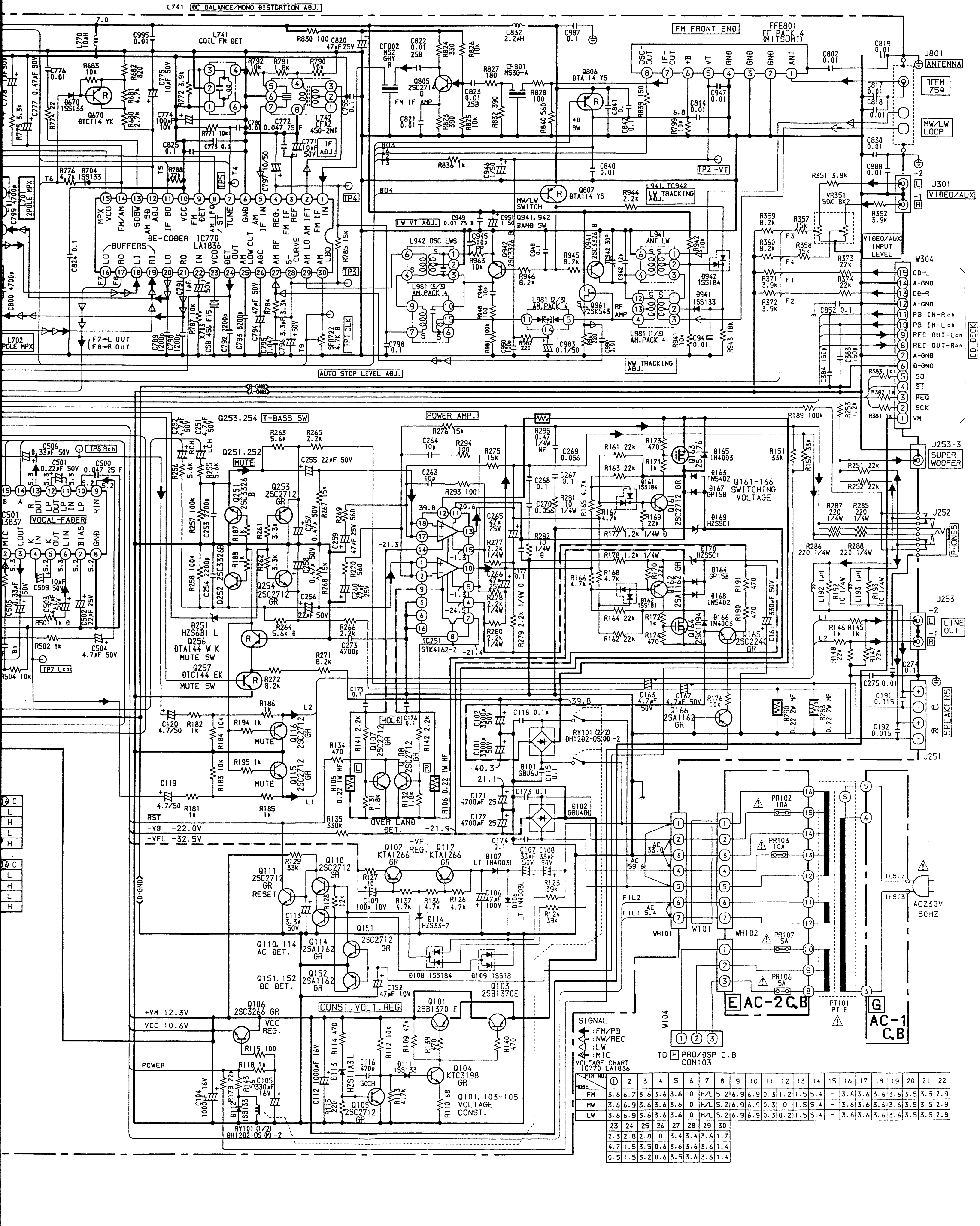
| MODE | ⑭ FUNC A | ⑬ FUNC B |
|---|---|---|
| TAPE | L | L |
| AUX | H | L |
| TUNER | L | H |
| CD | H | H |

| MODE | ⑫ BBE A | ⑪ BBE B |
|---|---|---|
| LEVEL1 | H | H |
| LEVEL2 | L | H |
| LEVEL3 | H | L |
| LEVEL4 | L | L |

IC501 BA3837

| KEY CON | MODE | ⑭ A | ⑮ B | ⑯ C |
|---|---|---|---|---|
| OFF (STEREO) | F MUTE | L | L | L |
| | VF | L | L | H |
| | MPX | L | H | L |
| | NORMAL | L | H | H |

| KEY CON | MODE | ⑭ A | ⑮ B | ⑯ C |
|---|---|---|---|---|
| ON (MONO) | F MUTE | H | L | L |
| | VF | H | L | H |
| | MPX | H | H | L |
| | NORMAL | H | H | H |

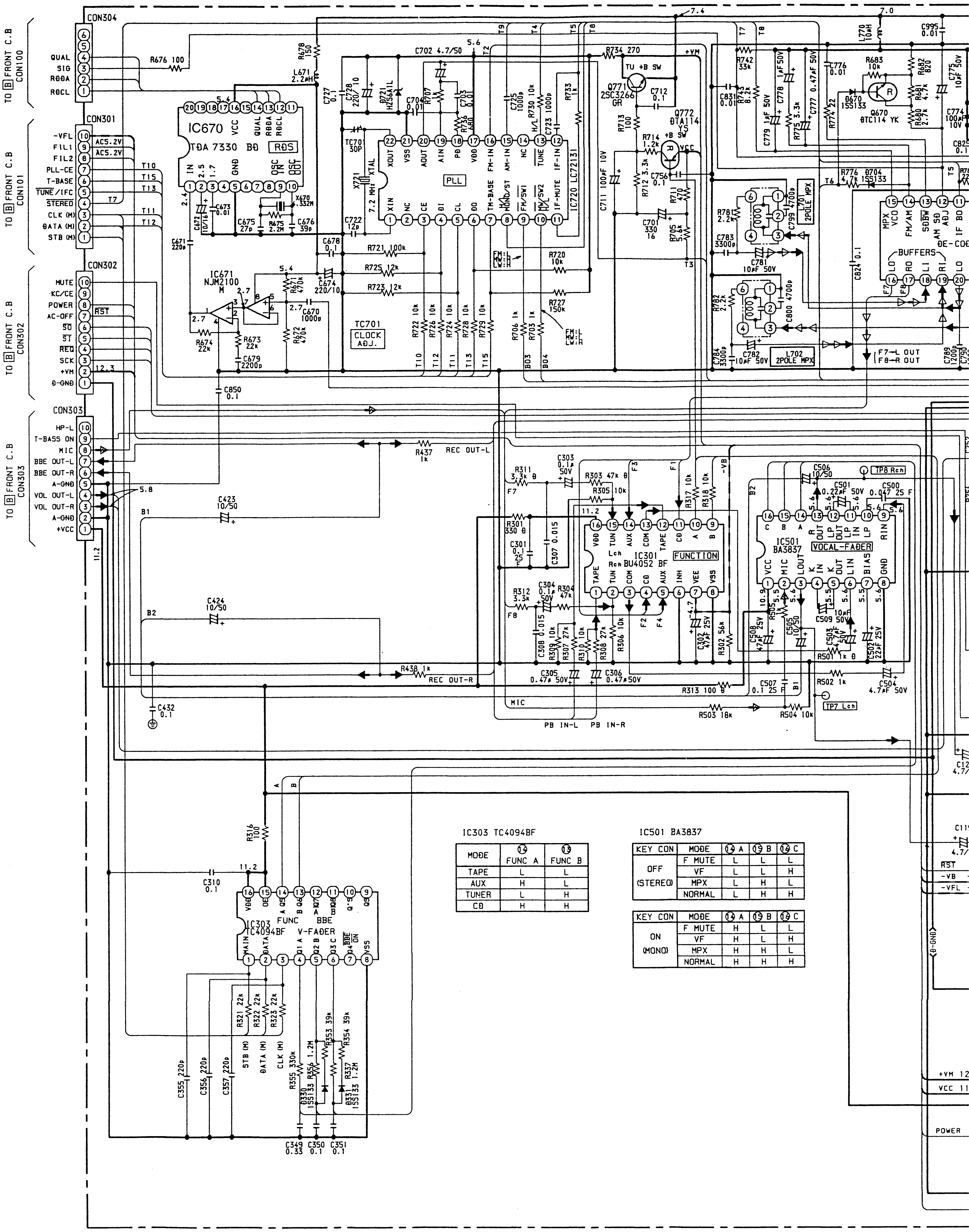

L741 DC BALANCE/MONO DISTORTION ADJ.
L741 COIL FM DET
FM FRONT END
FFE801 FE PACK 4 (MITSUMI)
J801 ANTENNA
FM 75Ω
MW/LW LOOP
Q805 2SC2714 O FM IF AMP
Q806 DTA114 YS
Q807 DTA114 YS MW/LW SWITCH
Q670 DTC114 YK
IC770 LA1836 DE-CODER
BUFFERS
F7-L OUT
F8-R OUT
L701 2POLE MPX
L702 2POLE MPX
TP1 CLK
TP2 -VT
TP3
TP4
TP5
AUTO STOP LEVEL ADJ.
IF ADJ.
LW VT ADJ.
L942 OSC LWS
L981 (3/3) AM PACK 4
L981 (2/3) AM PACK 4
L981 (1/3) AM PACK 4
L941 ANT LW
L941, TC942 LW TRACKING ADJ.
MW TRACKING ADJ.
Q941, 942 BAND SW
Q961 2SK543 RF AMP
J301 VIDEO/AUX
VR351 50K BX2 VIDEO/AUX INPUT LEVEL
W304
CD-L
A-GND
CD-R
PB IN-Rch
PB IN-Lch
REC OUT-Lch
REC OUT-Rch
D-GND
SD
ST
REQ
SCK
VM
CD DECK
Q253.254 T-BASS SW
Q251.252 MUTE
VOCAL-FADER
TP7 Lch
TP8 Rch
Q256 DTA144 W K MUTE SW
Q257 DTC144 EK MUTE SW
POWER AMP.
IC251 STK4162-2
Q161-166 SWITCHING VOLTAGE
J253-3 SUPER WOOFER
J252 PHONES
J253 LINE OUT
SPEAKERS
J251
HOLD
OVER LAND DET.
RY101 (2/2) DH1202-DS(W) -2
RY101 (1/2) DH1202-DS (W) -2
D101 GBU6J
D102 GBU4DL
-VB -22.0V
-VFL -32.5V
RST
Q111 2SC2712 GR RESET
Q110, 114 AC DET.
Q151, 152 DC DET.
Q102 KTA1266 GR
Q112 KTA1266 GR
-VFL REG.
CONST. VOLT. REG
Q101 2SB1370 E
Q103 2SB1370E
Q104 KTC3198 GR
Q101, 103-105 VOLTAGE CONST.
Q106 2SC3266 GR VCC REG.
+VM 12.3V
VCC 10.6V
POWER
W101
WH101
WH102
W104
PR102 10A
PR103 10A
PR107 5A
PR106 5A
E AC-2 C.B
PT101 PT E
G AC-1 C.B
TEST2
TEST3
AC230V 50HZ
FIL2
FIL1
SIGNAL
:FM/PB
:NW/REC
:LW
:MIC
TO H PRO/DSP C.B CON103

VOLTAGE CHART
IC770 LA1836

| PIN NO. / MODE | ① | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FM | 3.6 | 6.7 | 3.6 | 3.6 | 3.6 | 0 | H/L | 5.2 | 6.9 | 6.9 | 0.3 | 1.2 | 1.5 | 5.4 | - | 3.6 | 3.6 | 3.6 | 3.6 | 3.5 | 3.5 | 2.9 |
| MW | 3.6 | 6.9 | 3.6 | 3.6 | 3.6 | 0 | H/L | 5.2 | 6.9 | 6.9 | 0.3 | 0 | 1.5 | 5.4 | - | 3.6 | 3.6 | 3.6 | 3.6 | 3.5 | 3.5 | 2.9 |
| LW | 3.6 | 6.9 | 3.6 | 3.6 | 3.6 | 0 | H/L | 5.2 | 6.9 | 6.9 | 0.3 | 0.2 | 1.5 | 5.4 | - | 3.6 | 3.6 | 3.6 | 3.6 | 3.5 | 3.5 | 2.8 |

|  | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
|---|---|---|---|---|---|---|---|---|
|  | 2.3 | 2.8 | 2.8 | 0 | 3.4 | 3.4 | 3.6 | 1.7 |
|  | 4.7 | 1.5 | 3.5 | 0.6 | 3.6 | 3.6 | 3.6 | 1.4 |
|  | 0.5 | 1.5 | 3.2 | 0.6 | 3.5 | 3.6 | 3.6 | 1.4 |

# SCHEMATIC DIAGRAM-4 (MAIN: 656R)


TO [B] FRONT C.B CON100
CON304
QUAL
SIG
RDDA
RDCL
CON301
TO [B] FRONT C.B CON101
-VFL
FIL1
FIL2
PLL-CE
T-BASE
TUNE/IFC
STEREO
CLK (M)
DATA (M)
STB (M)
CON302
TO [B] FRONT C.B CON302
MUTE
KC/CE
POWER
AC-OFF
SD
ST
REQ
SCK
+VM
D-GND
CON303
TO [B] FRONT C.B CON303
HP-L
T-BASS ON
MIC
BBE OUT-L
BBE OUT-R
A-GND
VOL OUT-L
VOL OUT-R
A-GND
+VCC
IC670
TDA 7330 BD
RDS
IC671
NJM2100
IC720 LC72131
PLL
TC701
CLOCK ADJ.
X721 7.2 MHz
X670 4.332M
Q771 2SC3266 GR
Q772 DTA114 YS
TU +B SW
L701 2POLE MPX
L702 2POLE MPX
Q670 DTC114 YK
D670 1SS133
D704 1SS133
BUFFERS
DE-COE
F7→L OUT
F8→R OUT
REC OUT-L
REC OUT-R
IC301 BU4052 BF
FUNCTION
Lch
Rch
IC501 BA3837
VOCAL-FADER
TP8 Rch
TP7 Lch
MIC
PB IN-L
PB IN-R
IC303 TC4094BF
FUNC
BBE
V-FADER
STB (M)
DATA (M)
CLK (M)
D330 1SS133
D331 1SS133
C349 0.33
C350 0.1
C351 0.1
+VM 12
VCC 11
POWER
RST
-VB
-VFL
D-GND

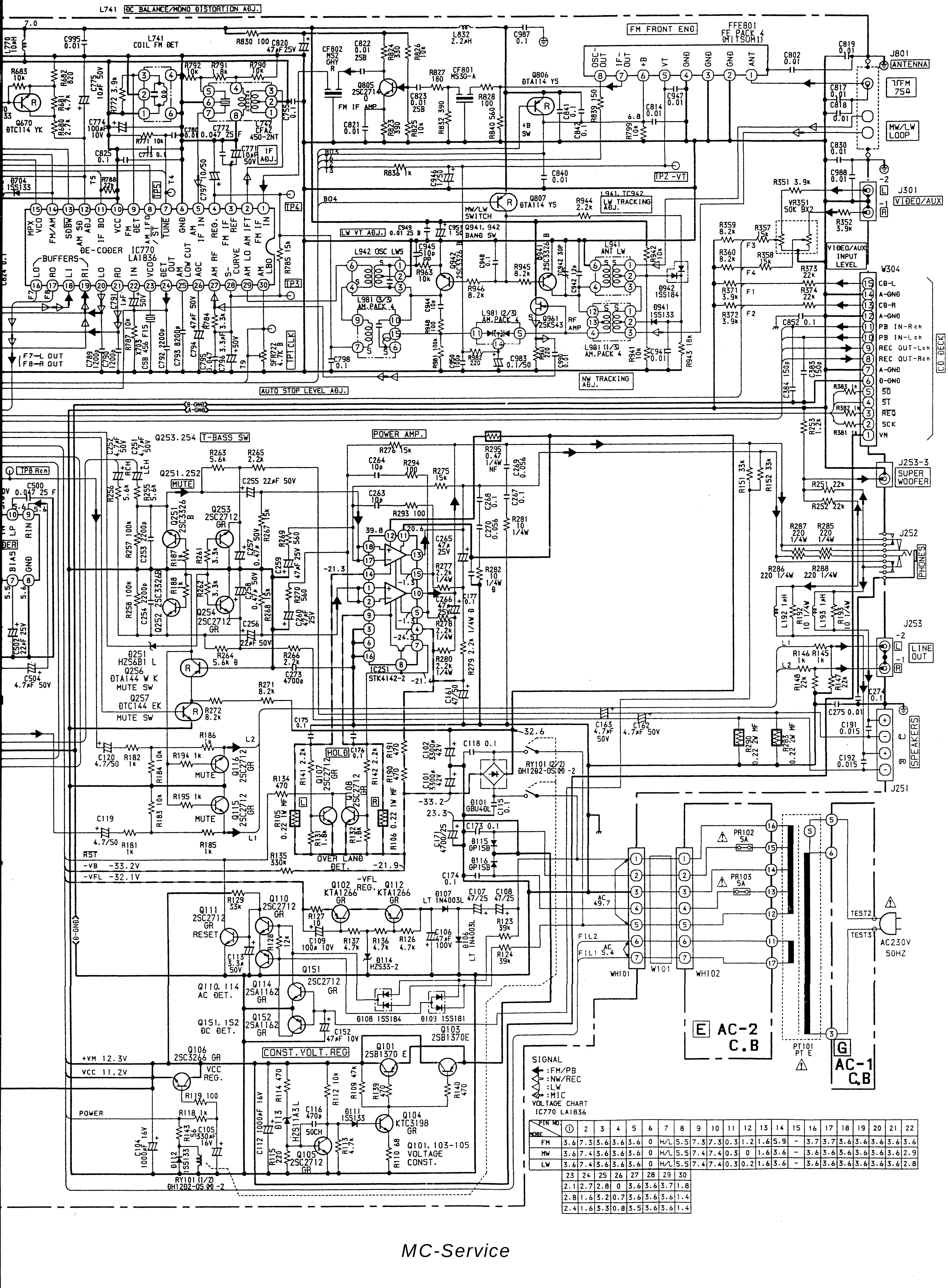
IC303 TC4094BF

| MODE | ⑭ FUNC A | ⑬ FUNC B |
|---|---|---|
| TAPE | L | L |
| AUX | H | L |
| TUNER | L | H |
| CD | H | H |

IC501 BA3837

| KEY CON | MODE | ⑭ A | ⑮ B | ⑯ C |
|---|---|---|---|---|
| OFF (STEREO) | F MUTE | L | L | L |
| | VF | L | L | H |
| | MPX | L | H | L |
| | NORMAL | L | H | H |

| KEY CON | MODE | ⑭ A | ⑮ B | ⑯ C |
|---|---|---|---|---|
| ON (MONO) | F MUTE | H | L | L |
| | VF | H | L | H |
| | MPX | H | H | L |
| | NORMAL | H | H | H |


L741 DC BALANCE/MONO DISTORTION ADJ.
FM FRONT END
FFE801 FE PACK 4 (MITSUMI)
J801 ANTENNA
FM 75Ω
MW/LW LOOP
J301 VIDEO/AUX
VR351 50K BX2
VIDEO/AUX INPUT LEVEL
W304
CD DECK
C8-L
A-GND
C8-R
PB IN-Rch
PB IN-Lch
REC OUT-Lch
REC OUT-Rch
D-GND
SD
ST
REQ
SCK
VM
DE-CODER IC770 LA1836
BUFFERS
TP4
TP3
TP1 CLK
TP2-VT
TP5
AUTO STOP LEVEL ADJ.
LW VT ADJ.
MW/LW SWITCH
LW TRACKING ADJ.
NW TRACKING ADJ.
L942 OSC LWS
L981 (3/3) AM.PACK 4
L981 (2/3) AM.PACK 4
L981 (1/3) AM.PACK 4
L941 ANT LW
RF AMP
Q253.254 T-BASS SW
MUTE
MUTE SW
POWER AMP.
IC251 STK4142-2
HOLD
OVER LOAD DET.
J253-3 SUPER WOOFER
J252 PHONES
J253 LINE OUT
J251 SPEAKERS
RY101 (2/2) DH1202-0S00-2
D101 GBU4DL
CONST. VOLT. REG
Q101, 103-105 VOLTAGE CONST.
Q110, 114 AC DET.
Q151, 152 DC DET.
RY101 (1/2) DH1202-0S00-2
WH101
W101
WH102
E AC-2 C.B
G AC-1 C.B
PT101 PT E
TEST2
TEST3
AC230V 50HZ
+VM 12.3V
VCC 11.2V
POWER
RST
-VB -33.2V
-VFL -32.1V
MC-Service

SIGNAL
- :FM/PB
- :NW/REC
- :LW
- :MIC

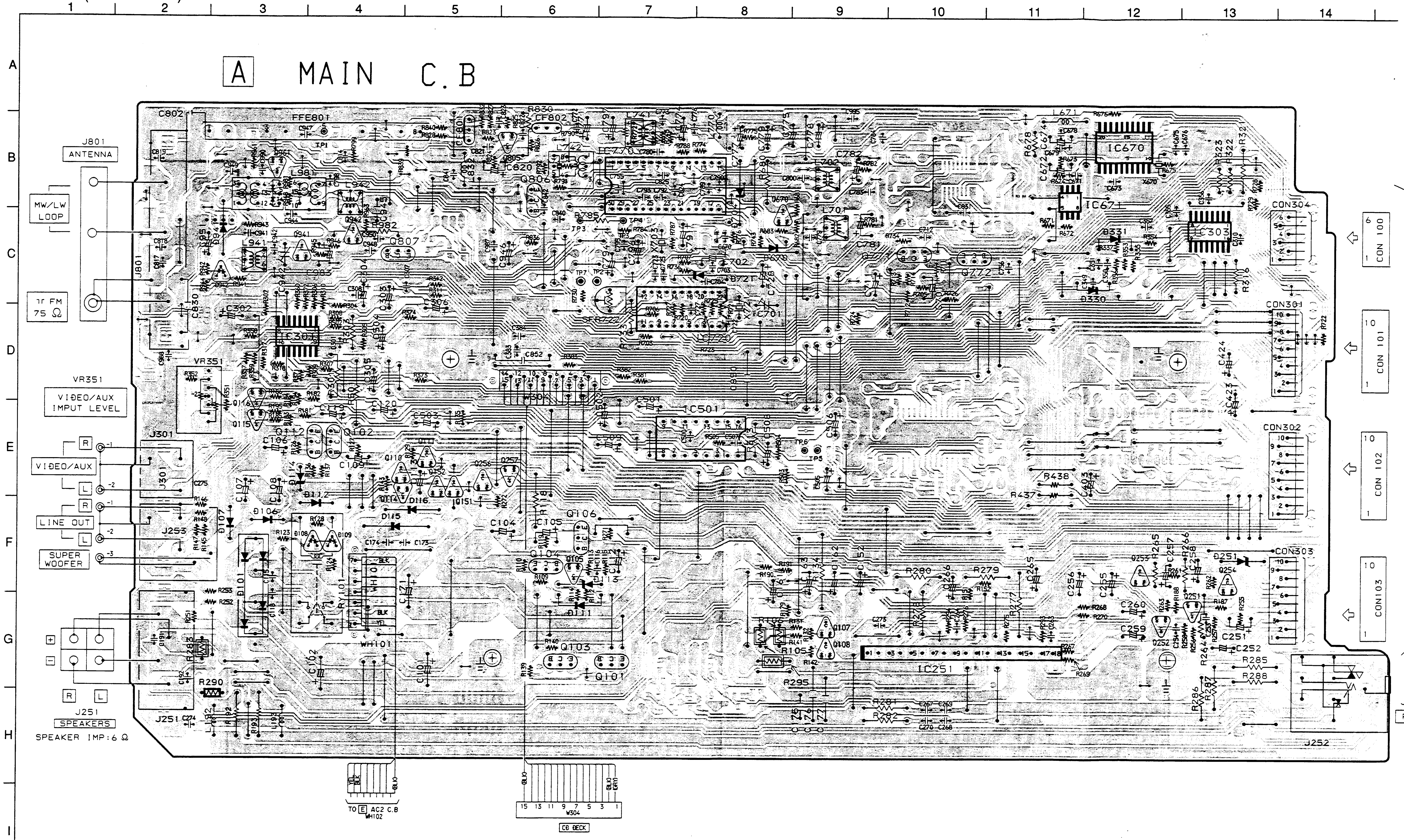
VOLTAGE CHART
IC770 LA1836

| PIN NO. / MODE | ① | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FM | 3.6 | 7.3 | 3.6 | 3.6 | 3.6 | 0 | H/L | 5.5 | 7.3 | 7.3 | 0.3 | 1.2 | 1.6 | 5.9 | - | 3.7 | 3.7 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 |
| MW | 3.6 | 7.4 | 3.6 | 3.6 | 3.6 | 0 | H/L | 5.5 | 7.4 | 7.4 | 0.3 | 0 | 1.6 | 3.6 | - | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 2.9 |
| LW | 3.6 | 7.4 | 3.6 | 3.6 | 3.6 | 0 | H/L | 5.5 | 7.4 | 7.4 | 0.3 | 0.2 | 1.6 | 3.6 | - | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 2.8 |

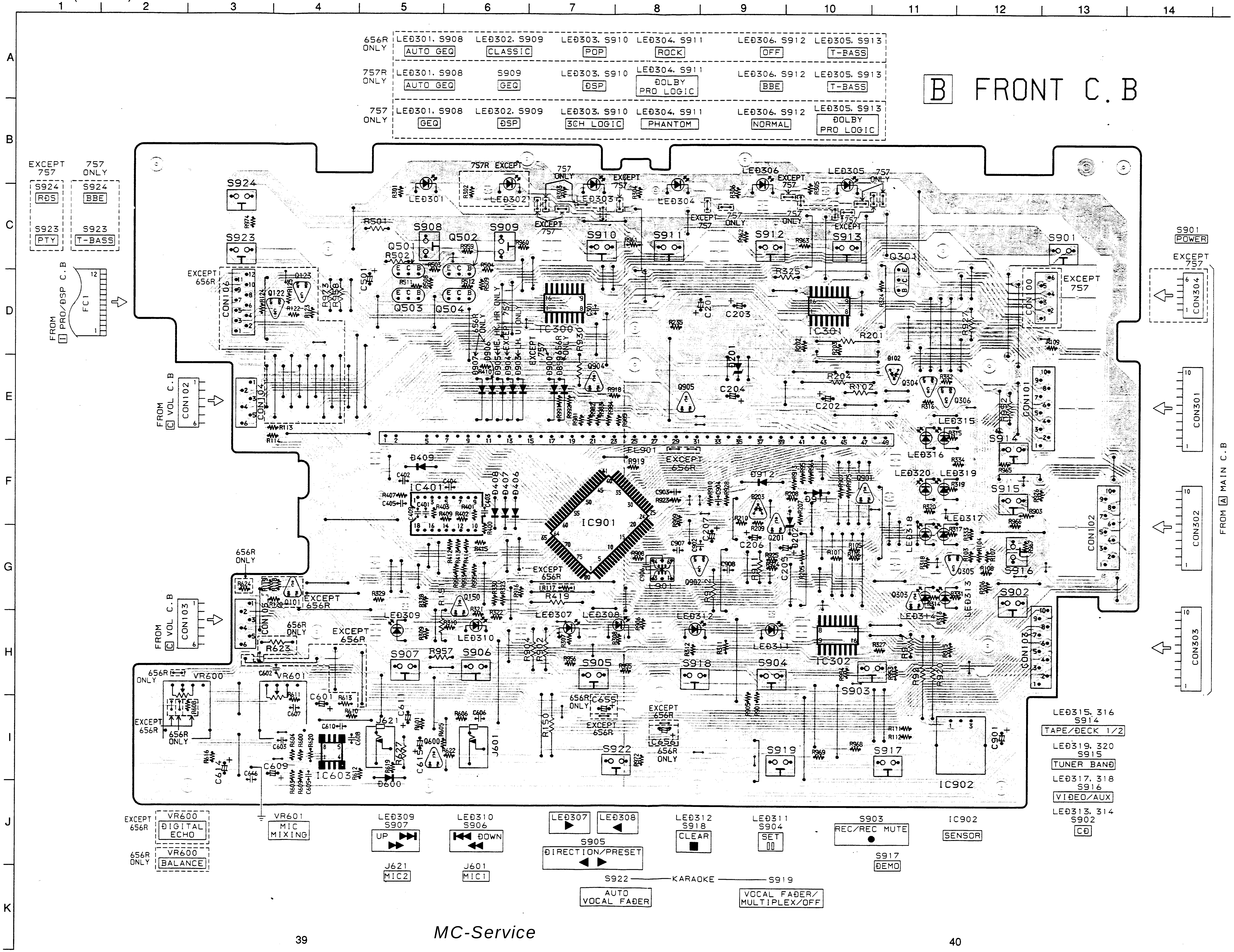
| PIN NO. / MODE | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
|---|---|---|---|---|---|---|---|---|
| FM | 2.1 | 2.7 | 2.8 | 0 | 3.6 | 3.6 | 3.7 | 1.8 |
| MW | 2.8 | 1.6 | 3.2 | 0.7 | 3.6 | 3.6 | 3.6 | 1.4 |
| LW | 2.4 | 1.6 | 3.3 | 0.8 | 3.5 | 3.6 | 3.6 | 1.4 |

*MC-Service*

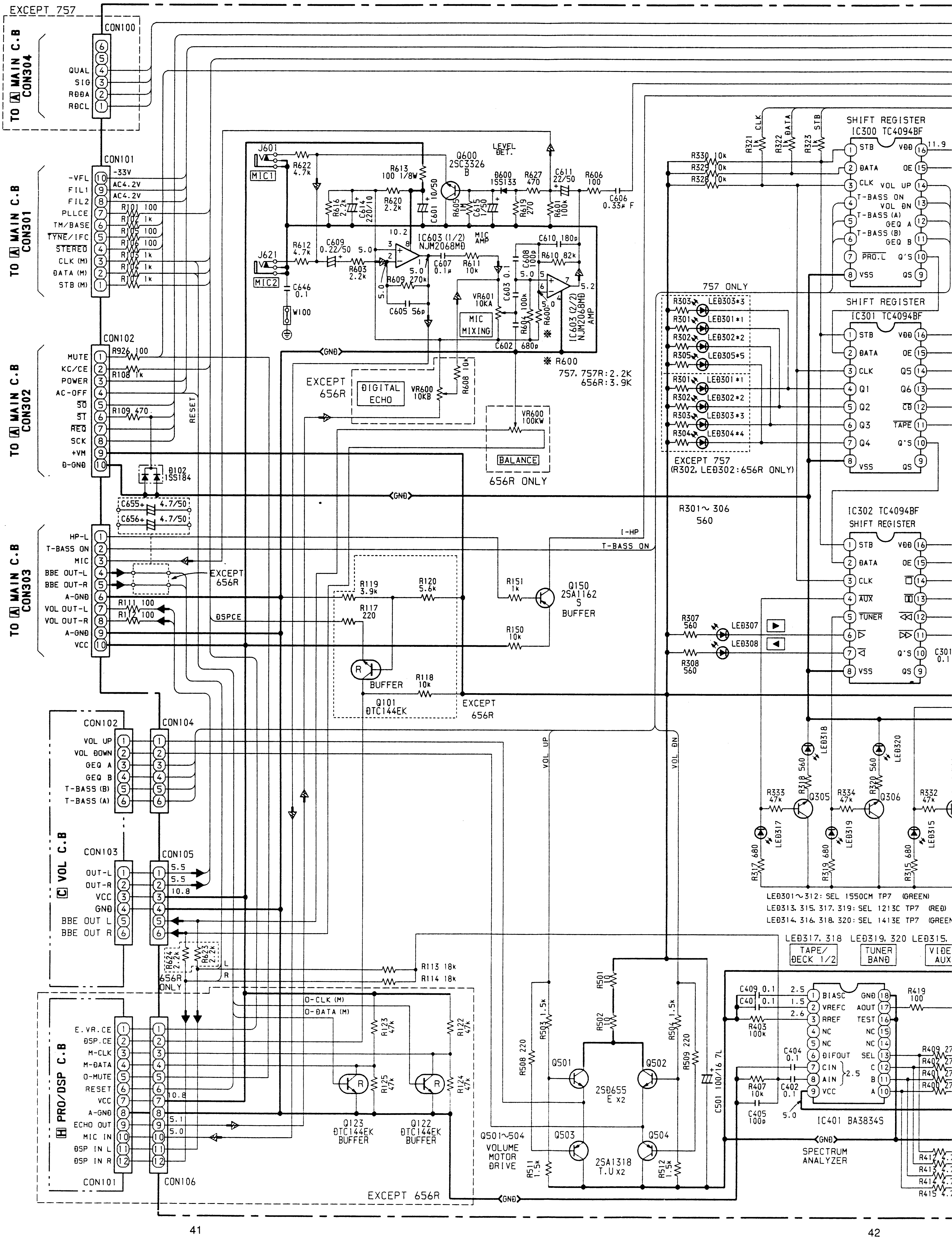
# WIRING-4 (MAIN: 656R)

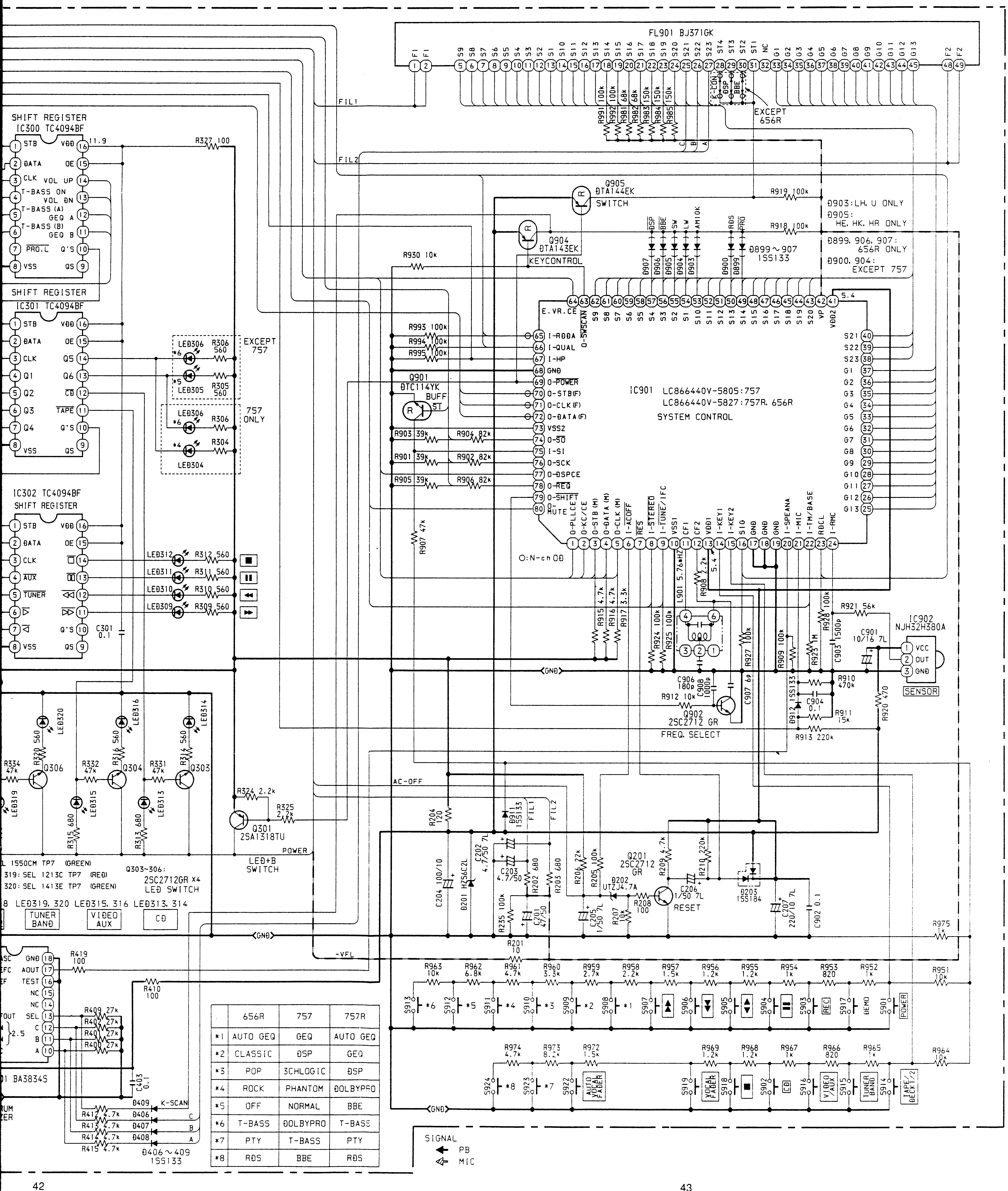

1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
K
A MAIN C.B
J801
ANTENNA
MW/LW LOOP
FM 75 Ω
VR351
VIDEO/AUX IMPUT LEVEL
J301
R
VIDEO/AUX
L
R
LINE OUT
L
SUPER WOOFER
J253
+
−
R
L
J251
SPEAKERS
SPEAKER IMP: 6 Ω
FFE801
CF802
IC620
IC770
IC670
IC671
IC303
IC301
IC701
IC720
IC501
IC251
CON304
CON301
CON302
CON303
CON 100
CON 101
CON 102
CON 103
FROM B FRONT C.B
J252
PHONES
WH101
RY101
TO E AC2 C.B WH102
W304
CD DECK
15 13 11 9 7 5 3 1

# WIRING-5 (FRONT)


B FRONT C.B
656R ONLY
LED301, S908 AUTO GEQ
LED302, S909 CLASSIC
LED303, S910 POP
LED304, S911 ROCK
LED306, S912 OFF
LED305, S913 T-BASS
757R ONLY
LED301, S908 AUTO GEQ
S909 GEQ
LED303, S910 DSP
LED304, S911 DOLBY PRO LOGIC
LED306, S912 BBE
LED305, S913 T-BASS
757 ONLY
LED301, S908 GEQ
LED302, S909 DSP
LED303, S910 3CH LOGIC
LED304, S911 PHANTOM
LED306, S912 NORMAL
LED305, S913 DOLBY PRO LOGIC
EXCEPT 757
757 ONLY
S924 RDS
S924 BBE
S923 PTY
S923 T-BASS
FROM I PRO/DSP C.B
FC1
CON106
CON104
CON105
FROM C VOL C.B
CON102
CON103
S901 POWER
EXCEPT 757
CON304
CON100
CON101
CON102
CON103
CON301
CON302
CON303
FROM A MAIN C.B
IC300
IC301
IC302
IC401
IC603
IC901
IC902
FL901
VR600
VR601
J601
J621
EXCEPT 656R VR600 DIGITAL ECHO
656R ONLY VR600 BALANCE
VR601 MIC MIXING
LED309 S907 UP ▶▶I ▶▶
LED310 S906 I◀◀ DOWN ◀◀
J621 MIC2
J601 MIC1
LED307 ▶
LED308 ◀
S905 DIRECTION/PRESET ◀ ▶
LED312 S918 CLEAR ■
LED311 S904 SET ▯▯
S903 REC/REC MUTE ●
S917 DEMO
IC902 SENSOR
S922 — KARAOKE — S919
AUTO VOCAL FADER
VOCAL FADER/ MULTIPLEX/OFF
LED315, 316 S914 TAPE/DECK 1/2
LED319, 320 S915 TUNER BAND
LED317, 318 S916 VIDEO/AUX
LED313, 314 S902 CD
1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J K

SCHEMATIC DIAGRAM-5 (FRONT)


EXCEPT 757
TO A MAIN C.B CON304
CON100
QUAL
SIG
RDDA
RDCL
TO A MAIN C.B CON301
CON101
-VFL
FIL1
FIL2
PLLCE
TM/BASE
TYNE/IFC
STEREO
CLK (M)
DATA (M)
STB (M)
-33V
AC4.2V
AC4.2V
R101 100
R102 1k
R105 100
R106 100
R103 1k
R104 1k
R107 1k
TO A MAIN C.B CON302
CON102
MUTE
KC/CE
POWER
AC-OFF
SO
ST
REQ
SCK
+VM
D-GND
R926 100
R108 1k
R109 470
RESET
D102 1SS184
C655 4.7/50
C656 4.7/50
TO A MAIN C.B CON303
HP-L
T-BASS ON
MIC
BBE OUT-L
BBE OUT-R
A-GND
VOL OUT-L
VOL OUT-R
A-GND
VCC
R111 100
R112 100
EXCEPT 656R
DSPCE
J601
MIC1
R622 4.7k
J621
MIC2
C646 0.1
W100
R613 100 1/8W
R616 2.2k
C614 220/10
R620 2.2k
C601 10/50
Q600 2SC3326 B
LEVEL DET.
D600 1SS133
R627 470
C611 22/50
R606 100
C606 0.33μ F
R605 1M
C615 1/50
R619 270
R601 100k
R612 4.7k
C609 0.22/50
R603 2.2k
IC603 (1/2) NJM2068MD
MIC AMP
C607 0.1μ
R611 10k
R609 270k
C605 56p
C610 180p
R610 82k
C608 100p
C603 0.1
VR601 10KA
MIC MIXING
R604 100k
R600
IC603 (2/2) NJM2068MD AMP
C602 680p
※ R600
757, 757R: 2.2K
656R: 3.9K
EXCEPT 656R
DIGITAL ECHO
VR600 10KB
R608 10k
VR600 100KW
BALANCE
656R ONLY
GND
I-HP
T-BASS ON
R119 3.9k
R120 5.6k
R117 220
R151 1k
Q150 2SA1162 S BUFFER
R150 10k
BUFFER
R118 10k
Q101 DTC144EK
EXCEPT 656R
C VOL C.B
CON102
VOL UP
VOL DOWN
GEQ A
GEQ B
T-BASS (B)
T-BASS (A)
CON104
CON103
OUT-L
OUT-R
VCC
GND
BBE OUT L
BBE OUT R
CON105
5.5
5.5
10.8
R624 2.2k
R623 2.2k
656R ONLY
R113 18k
R114 18k
H PRO/DSP C.B
E.VR.CE
DSP.CE
M-CLK
M-DATA
D-MUTE
RESET
VCC
A-GND
ECHO OUT
MIC IN
DSP IN L
DSP IN R
CON101
CON106
10.8
5.1
5.0
D-CLK (M)
D-DATA (M)
R123 47k
R122 47k
R125 47k
R124 47k
Q123 DTC144EK BUFFER
Q122 DTC144EK BUFFER
EXCEPT 656R
VOL UP
VOL DN
R501 10
R502 10
R503 1.5k
R504 1.5k
R508 220
R509 220
C501 100/16 7L
Q501
Q502
2SD655 E x2
Q503
Q504
2SA1318 T.U x2
R511 1.5k
R512 1.5k
Q501~504 VOLUME MOTOR DRIVE
SHIFT REGISTER IC300 TC4094BF
R321 1k CLK
R322 1k DATA
R323 1k STB
R330 10k
R329 10k
R328 10k
STB
DATA
CLK
T-BASS ON
T-BASS (A)
T-BASS (B)
PRO.L
VSS
VDD
OE
VOL UP
VOL DN
GEQ A
GEQ B
Q'S
QS
11.9
757 ONLY
R303 LED303*3
R301 LED301*1
R302 LED302*2
R305 LED305*5
R301 LED301*1
R302 LED302*2
R303 LED303*3
R304 LED304*4
EXCEPT 757 (R302, LED302: 656R ONLY)
SHIFT REGISTER IC301 TC4094BF
Q1
Q2
Q3
Q4
Q5
Q6
CD
TAPE
R301~306 560
IC302 TC4094BF SHIFT REGISTER
AUX
TUNER
R307 560
R308 560
LED307
LED308
C301 0.1
LED318
LED320
R318 560
R320 560
R333 47k
Q305
R334 47k
Q306
R332 47k
LED317
LED319
LED315
R317 680
R319 680
R315 680
LED301~312: SEL 1550CM TP7 (GREEN)
LED313, 315, 317, 319: SEL 1213C TP7 (RED)
LED314, 316, 318, 320: SEL 1413E TP7 (GREEN)
LED317, 318 TAPE/DECK 1/2
LED319, 320 TUNER BAND
LED315, VIDEO AUX
C409 0.1
C401 0.1
2.5
1.5
2.6
BIASC
VREFC
RREF
NC
NC
DIFOUT
CIN
AIN
VCC
GND
AOUT
TEST
SEL
R419 100
R403 100k
C404 0.1
R407 10k
C402 0.1
C405 100p
5.0
2.5
IC401 BA3834S
SPECTRUM ANALYZER
R409 27
R410 27
R411
R412
R413
R414
R415

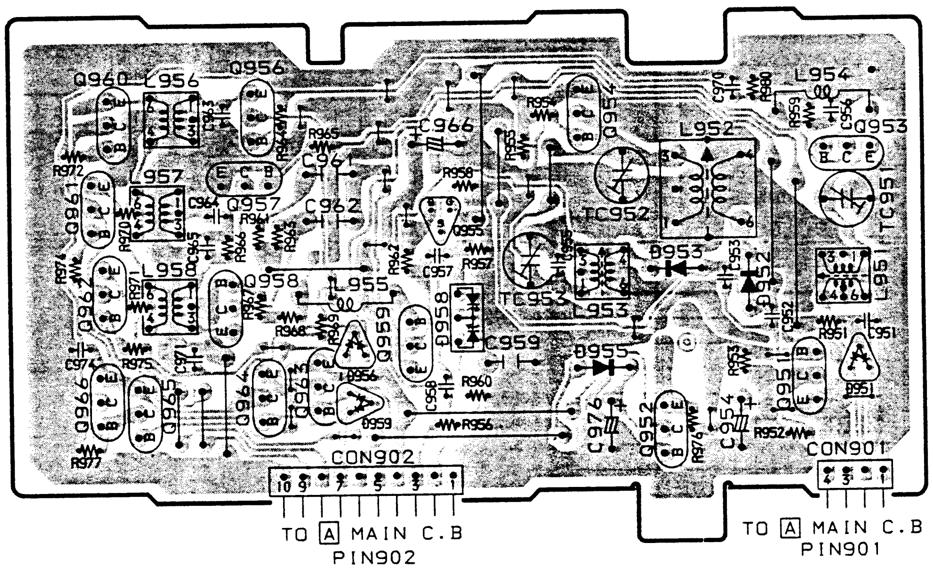

FL901 BJ371GK
SHIFT REGISTER
IC300 TC4094BF
SHIFT REGISTER
IC301 TC4094BF
IC302 TC4094BF
SHIFT REGISTER
IC901 LC866440V-5805:757
LC866440V-5827:757R, 656R
SYSTEM CONTROL
IC902
NJH32H380A
SENSOR
Q905
DTA144EK
SWITCH
Q904
DTA143EK
KEYCONTROL
Q901
DTC114YK
BUFF
Q902
2SC2712 GR
FREQ. SELECT
Q201
2SC2712
GR
RESET
Q301
2SA1318TU
LED+B
SWITCH
Q303~306:
2SC2712GR X4
LED SWITCH
D899~907
1SS133
D203
1SS184
D406~409
1SS133
EXCEPT
656R
EXCEPT
757
757
ONLY
D903:LH, U ONLY
D905:
HE, HK, HR ONLY
D899, 906, 907:
656R ONLY
D900, 904:
EXCEPT 757
O:N-ch OD
L 1550CM TP7 (GREEN)
319: SEL 1213C TP7 (RED)
320: SEL 1413E TP7 (GREEN)
8 LED319, 320 LED315, 316 LED313, 314
TUNER
BAND
VIDEO
AUX
CD
01 BA3834S
RUM
ZER
K-SCAN
FIL1
FIL2
AC-OFF
POWER
-VFL
GND
SIGNAL
PB
MIC

|  | 656R | 757 | 757R |
|---|---|---|---|
| *1 | AUTO GEQ | GEQ | AUTO GEQ |
| *2 | CLASSIC | DSP | GEQ |
| *3 | POP | 3CHLOGIC | DSP |
| *4 | ROCK | PHANTOM | DOLBYPRO |
| *5 | OFF | NORMAL | BBE |
| *6 | T-BASS | DOLBYPRO | T-BASS |
| *7 | PTY | T-BASS | PTY |
| *8 | RDS | BBE | RDS |

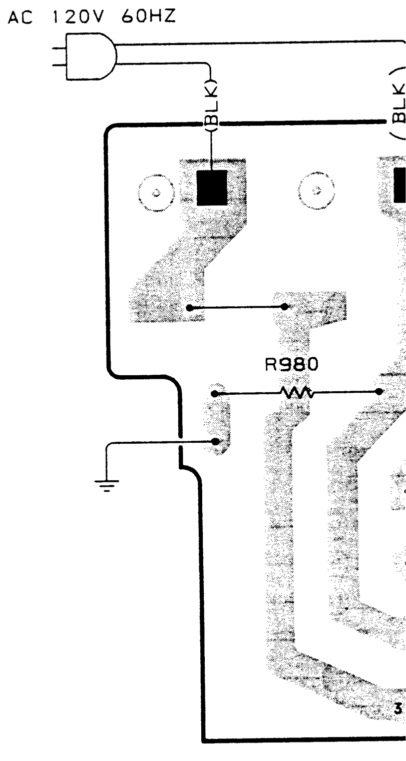
*MC-Service*

D SW C.B

(HE, HR, HK)


Q960
L956
Q956
R965
C966
Q954
L954
Q953
R972
Q961
L957
Q957
C962
C96
R958
L952
TC952
TC951
R970
L950
Q958
L955
R968
Q959
Q958
TC953
L953
D953
L951
C974
R975
Q966
Q965
Q964
Q963
D956
C959
D955
C976
Q952
C954
R952
Q951
R951
R960
R956
D959
CON902
CON901
TO A MAIN C.B
PIN902
TO A MAIN C.B
PIN901

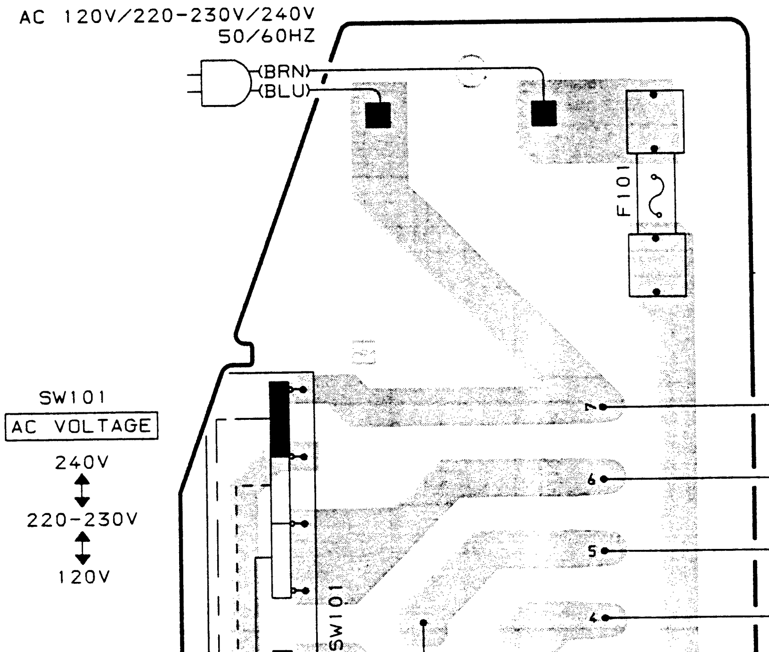
U MODEL


AC 120V 60HZ
(BLK)
(BLK)
R980

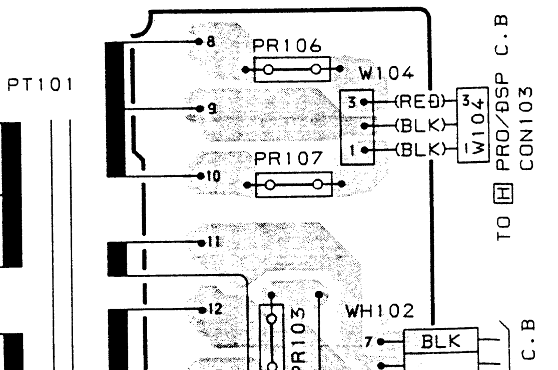
G AC-1

HE, HR, HK, LH MODELS

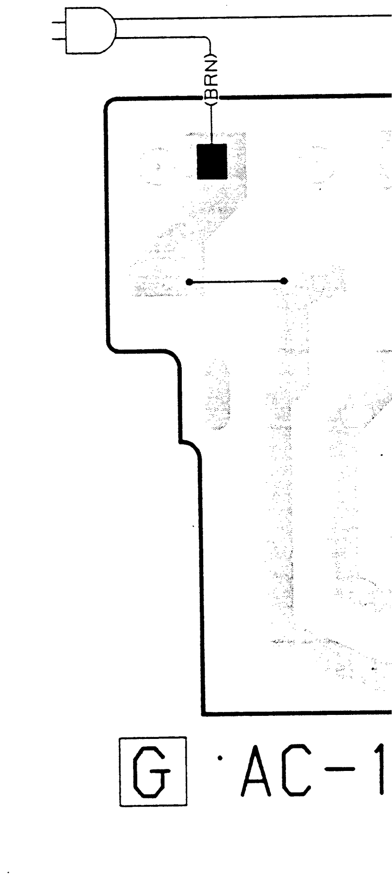
F PT C.B


AC 120V/220-230V/240V
50/60HZ
(BRN)
(BLU)
F101
SW101
AC VOLTAGE
240V
220-230V
120V
SW101
7
6
5
4
3
2

E AC-2 C.B

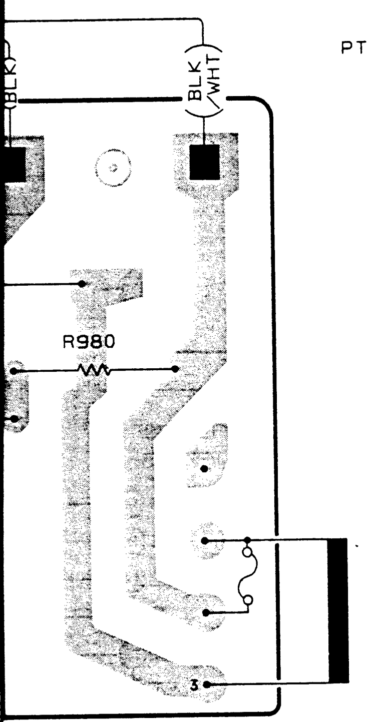

PT101
8
PR106
W104
9
3
(RED)
3
(BLK)
W104
1
(BLK)
1
10
PR107
TO H PRO/DSP C.B
CON103
11
12
PR103
WH102
7
BLK
13
5
14
3
BLK
1
YEL
TO A MAIN C.B
WH101
15
PR102
16
17

757R, 656R MO

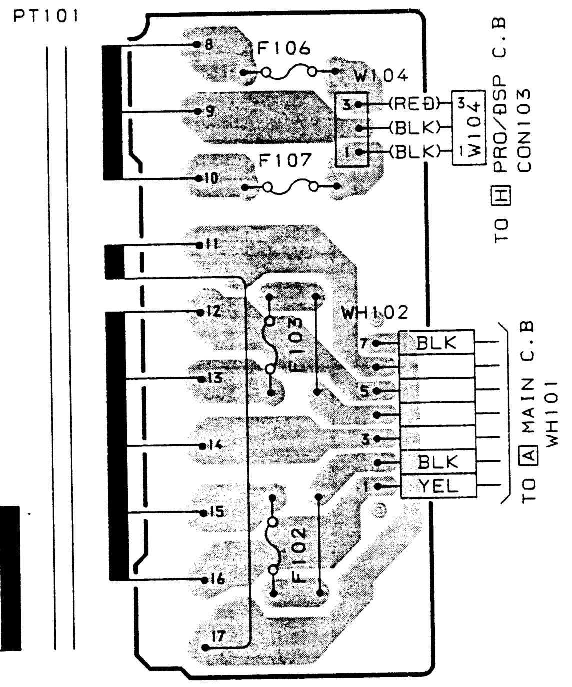

AC 230V 50HZ
(BRN)

G AC-1

EL

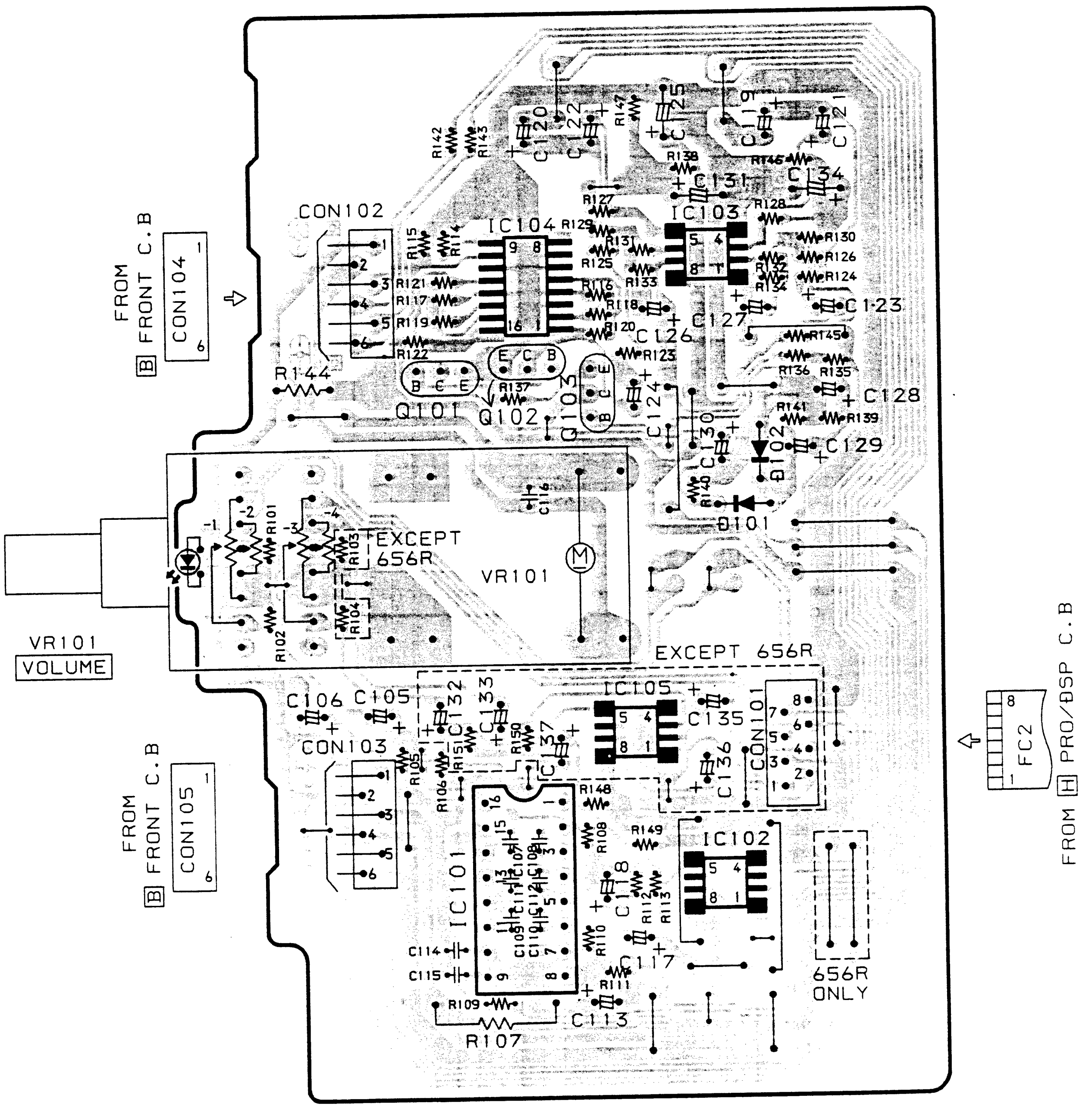

(BLK)
(BLK)
(WHT)
R980
3

AC-1 C.B

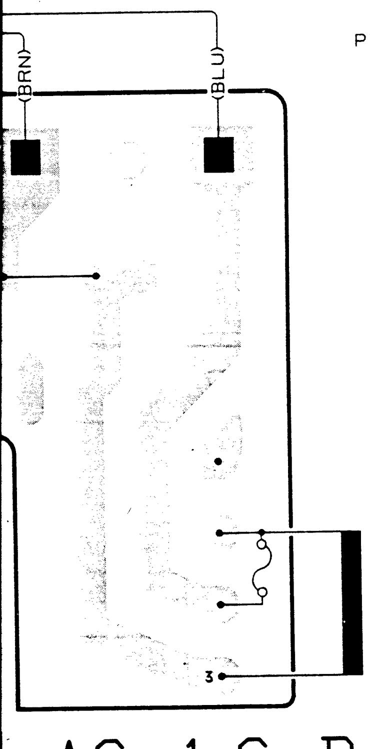

PT101
8
9
10
11
12
13
14
15
16
17
F106
F107
F103
F102
W104
3 (RED)
(BLK)
1 (BLK)
W104
TO H PRO/DSP C.B CON103
WH102
7
5
3
1
BLK
BLK
YEL
TO A MAIN C.B WH101

E AC-2 C.B

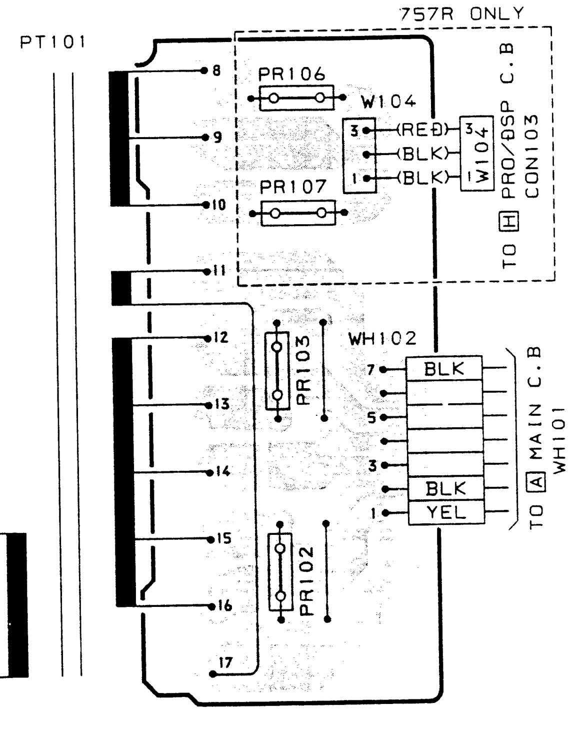
C VOL C.B


FROM B FRONT C.B
CON104
CON102
IC104
IC103
R144
Q101
Q102
Q103
D101
D102
C123
C127
C128
C129
EXCEPT 656R
VR101
M
VR101
VOLUME
EXCEPT 656R
IC105
C135
C136
CON101
C106
C105
CON103
FROM B FRONT C.B
CON105
IC101
IC102
C113
C114
C115
C117
R107
R109
656R ONLY
FC2
FROM H PRO/DSP C.B

656R MODELS



AC-1 C.B

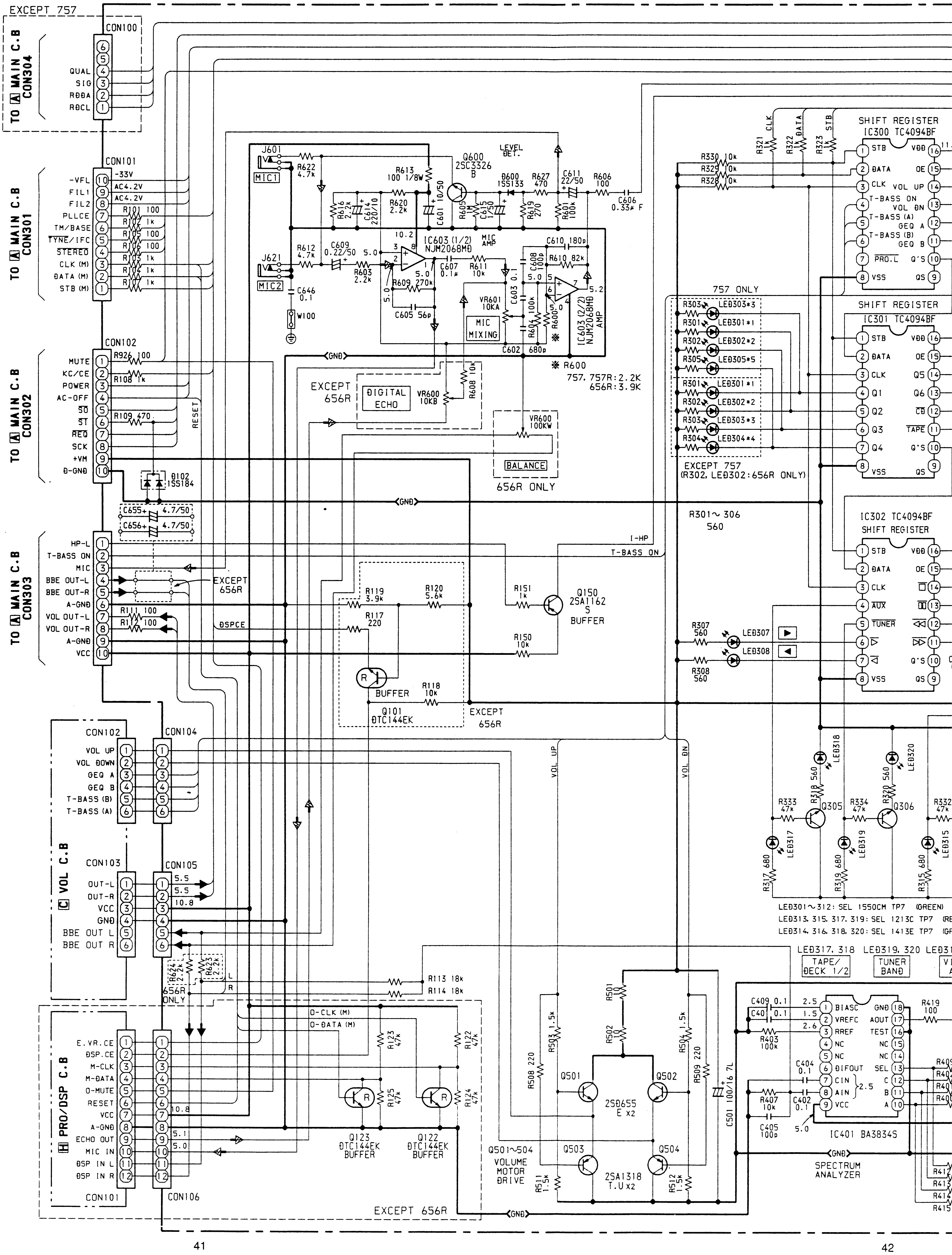

PT101
757R ONLY
8
9
10
11
12
13
14
15
16
17
PR106
PR107
PR103
PR102
W104
3 (RED)
(BLK)
1 (BLK)
W104
TO H PRO/DSP C.B CON103
WH102
7
5
3
1
BLK
BLK
YEL
TO A MAIN C.B WH101

E AC-2 C.B

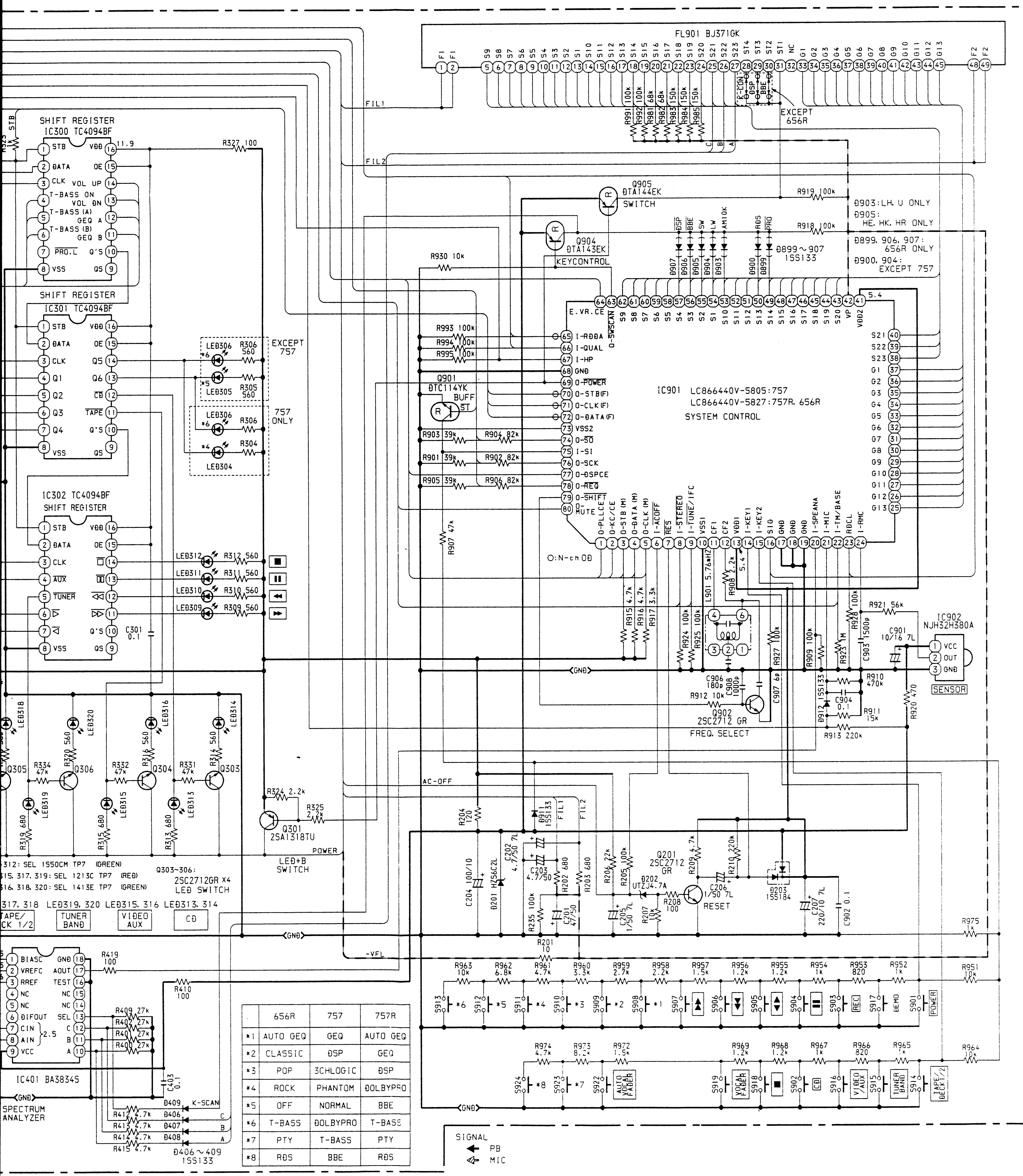
## SCHEMATIC DIAGRAM-5 (FRONT)

*MC-Service*

1583

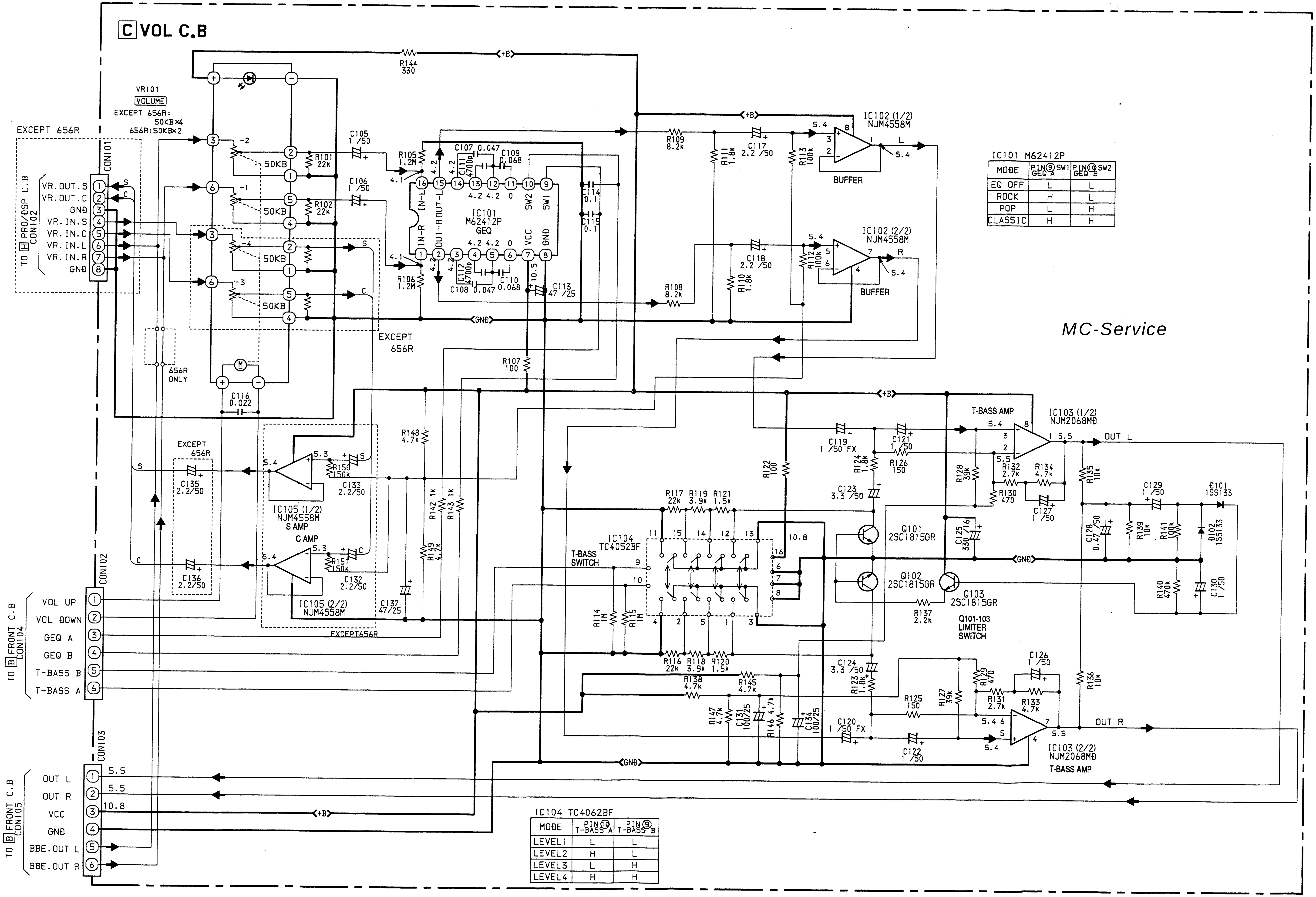


EXCEPT 757
TO A MAIN C.B CON304
CON100
QUAL
SIG
RDDA
RDCL
TO A MAIN C.B CON301
CON101
-VFL
FIL1
FIL2
PLLCE
TM/BASE
TYNE/IFC
STEREO
CLK (M)
DATA (M)
STB (M)
-33V
AC4.2V
AC4.2V
TO A MAIN C.B CON302
CON102
MUTE
KC/CE
POWER
AC-OFF
SD
ST
REQ
SCK
+VM
D-GND
D102 1SS184
C655 4.7/50
C656 4.7/50
TO A MAIN C.B CON303
HP-L
T-BASS ON
MIC
BBE OUT-L
BBE OUT-R
A-GND
VOL OUT-L
VOL OUT-R
A-GND
VCC
EXCEPT 656R
DSPCE
RESET
J601
MIC1
J621
MIC2
R622 4.7k
R612 4.7k
C609 0.22/50
R603 2.2k
C646 0.1
W100
R613 100 1/8W
R620 2.2k
Q600 2SC3326 B
LEVEL DET.
D600 1SS133
R627 470
C611 22/50
R606 100
C606 0.33μ F
IC603 (1/2) NJM2068MD
MIC AMP
C607 0.1μ
R611 10k
R609 270k
C605 56p
C610 180p
R610 82k
VR601 10KA
MIC MIXING
IC603 (2/2) NJM2068MD AMP
C602 680p
※ R600
757, 757R:2.2K
656R:3.9K
EXCEPT 656R
DIGITAL ECHO
VR600 10KB
R608 10k
VR600 100KW
BALANCE
656R ONLY
GND
R119 3.9k
R120 5.6k
R117 220
R151 1k
Q150 2SA1162 S BUFFER
R150 10k
I-HP
T-BASS ON
BUFFER
R118 10k
Q101 DTC144EK
EXCEPT 656R
SHIFT REGISTER IC300 TC4094BF
STB
DATA
CLK
VSS
VDD
OE
VOL UP
T-BASS ON
VOL DN
T-BASS (A)
GEQ A
T-BASS (B)
GEQ B
PRO.L
Q'S
QS
R330 10k
R329 10k
R328 10k
R321 1k
R322 1k
R323 1k
CLK
DATA
STB
757 ONLY
LED303*3
LED301*1
LED302*2
LED305*5
LED304*4
EXCEPT 757
(R302, LED302:656R ONLY)
R301~306 560
SHIFT REGISTER IC301 TC4094BF
Q1
Q2
Q3
Q4
Q5
Q6
CD
TAPE
IC302 TC4094BF SHIFT REGISTER
AUX
TUNER
R307 560
R308 560
LED307
LED308
LED318
LED320
R318 560
R320 560
R333 47k
R334 47k
R332 47k
Q305
Q306
LED317
LED319
LED315
R317 680
R319 680
R315 680
LED301~312: SEL 1550CM TP7 (GREEN)
LED313, 315, 317, 319: SEL 1213C TP7
LED314, 316, 318, 320: SEL 1413E TP7
LED317, 318
LED319, 320
TAPE/ DECK 1/2
TUNER BAND
VOL UP
VOL DN
C VOL C.B
CON102
CON104
VOL UP
VOL DOWN
GEQ A
GEQ B
T-BASS (B)
T-BASS (A)
CON103
CON105
OUT-L
OUT-R
VCC
GND
BBE OUT L
BBE OUT R
5.5
10.8
R624 2.2k
R623 2.2k
656R ONLY
R113 18k
R114 18k
H PRO/DSP C.B
CON101
CON106
E.VR.CE
DSP.CE
M-CLK
M-DATA
O-MUTE
RESET
VCC
A-GND
ECHO OUT
MIC IN
DSP IN L
DSP IN R
O-CLK (M)
O-DATA (M)
R123 47k
R122 47k
R125 47k
R124 47k
Q123 DTC144EK BUFFER
Q122 DTC144EK BUFFER
EXCEPT 656R
R501
R502
R503 1.5k
R504 1.5k
R508 220
R509 220
Q501
Q502
2SD655 E x2
Q503
Q504
2SA1318 T.U x2
R511 1.5k
R512 1.5k
C501 100/16 7L
Q501~504 VOLUME MOTOR DRIVE
C409 0.1
C401 0.1
R403 100k
C404 0.1
R407 10k
C402 0.1
C405 100p
BIASC
VREFC
RREF
NC
DIFOUT
CIN
AIN
VCC
GND
AOUT
TEST
SEL
R419 100
IC401 BA3834S
SPECTRUM ANALYZER


FL901 BJ371GK
SHIFT REGISTER IC300 TC4094BF
SHIFT REGISTER IC301 TC4094BF
IC302 TC4094BF SHIFT REGISTER
IC901 LC866440V-5805:757
LC866440V-5827:757R, 656R
SYSTEM CONTROL
IC902 NJH32H380A
SENSOR
IC401 BA3834S
SPECTRUM ANALYZER
Q905 DTA144EK SWITCH
Q904 DTA143EK KEYCONTROL
Q901 DTC114YK BUFF
Q902 2SC2712 GR FREQ. SELECT
Q201 2SC2712 GR RESET
Q301 2SA1318TU LED+B SWITCH
Q303~306: 2SC2712GR X4 LED SWITCH
D899~907 1SS133
D903: LH, U ONLY
D905: HE, HK, HR ONLY
D899, 906, 907: 656R ONLY
D900, 904: EXCEPT 757
EXCEPT 656R
EXCEPT 757
757 ONLY
D406~409 1SS133
D201 HZ56C2L
D202 UTZJ4.7A
D203 1SS184
D911 1SS133
D912 1SS133
L901 5.76MHZ
O:N-ch OD
FIL1
FIL2
AC-OFF
POWER
-VFL
GND
K-SCAN
LED312: SEL 1550CM TP7 (GREEN)
LED315, 317, 319: SEL 1213C TP7 (RED)
LED316, 318, 320: SEL 1413E TP7 (GREEN)
LED317, 318 LED319, 320 LED315, 316 LED313, 314
TAPE/ DECK 1/2
TUNER BAND
VIDEO AUX
CD
POWER
DEMO
REC
AUTO VOCAL FADER
VOCAL FADER
TAPE/ DECK 1/2
SIGNAL
PB
MIC

|  | 656R | 757 | 757R |
|---|---|---|---|
| *1 | AUTO GEQ | GEQ | AUTO GEQ |
| *2 | CLASSIC | DSP | GEQ |
| *3 | POP | 3CHLOGIC | DSP |
| *4 | ROCK | PHANTOM | DOLBYPRO |
| *5 | OFF | NORMAL | BBE |
| *6 | T-BASS | DOLBYPRO | T-BASS |
| *7 | PTY | T-BASS | PTY |
| *8 | RDS | BBE | RDS |

## SCHEMATIC DIAGRAM-6 (VOLUME)


C VOL C.B
VR101
VOLUME
EXCEPT 656R: 50KB×4
656R:50KB×2
EXCEPT 656R
CON101
TO H PRO/DSP C.B CON102
VR.OUT.S
VR.OUT.C
GND
VR.IN.S
VR.IN.C
VR.IN.L
VR.IN.R
GND
50KB
R101 22k
R102 22k
R144 330
+B
C105 1/50
C106 1/50
R105 1.2M
R106 1.2M
C107 0.047
C109 0.068
C111 4700p
C112 4700p
C108 0.047
C110 0.068
C113 47/25
IC101 M62412P GEQ
IN-L
OUT-L
ROUT-L
IN-R
OUT-R
SW2
SW1
VCC
GND
C114 0.1
C115 0.1
R109 8.2k
R108 8.2k
R111 1.8k
R110 1.8k
C117 2.2/50
C118 2.2/50
R113 100k
R112 100k
IC102 (1/2) NJM4558M
IC102 (2/2) NJM4558M
BUFFER
L
R
EXCEPT 656R
656R ONLY
C116 0.022
R107 100
GND
R148 4.7k
R149 4.7k
R142 1k
R143 1k
C137 47/25
IC105 (1/2) NJM4558M
S AMP
C AMP
IC105 (2/2) NJM4558M
R150 150k
R151 150k
C133 2.2/50
C132 2.2/50
C135 2.2/50
C136 2.2/50
EXCEPT656R
MC-Service
T-BASS AMP
IC103 (1/2) NJM2068MD
IC103 (2/2) NJM2068MD
OUT L
OUT R
C119 1/50 FX
C120 1/50 FX
C121 1/50
C122 1/50
R122 100
R124 1.8k
R123 1.8k
R126 150
R125 150
C123 3.3/50
C124 3.3/50
R128 39k
R127 39k
R132 2.7k
R131 2.7k
R134 4.7k
R133 4.7k
R130 470
R129 470
C127 1/50
C126 1/50
R135 10k
R136 10k
C129 1/50
D101 1SS133
D102 1SS133
C128 0.47/50
R139 10k
R141 100k
R140 470k
C130 1/50
C125 330/16
Q101 2SC1815GR
Q102 2SC1815GR
Q103 2SC1815GR
Q101-103 LIMITER SWITCH
R137 2.2k
IC104 TC4052BF
T-BASS SWITCH
R117 22k
R119 3.9k
R121 1.5k
R116 22k
R118 3.9k
R120 1.5k
R114 1M
R115 1M
R138 4.7k
R145 4.7k
R147 4.7k
R146 4.7k
C131 100/25
C134 100/25
CON102
TO B FRONT C.B CON104
VOL UP
VOL DOWN
GEQ A
GEQ B
T-BASS B
T-BASS A
CON103
TO B FRONT C.B CON105
OUT L
OUT R
VCC
GND
BBE.OUT L
BBE.OUT R
5.5
5.5
10.8

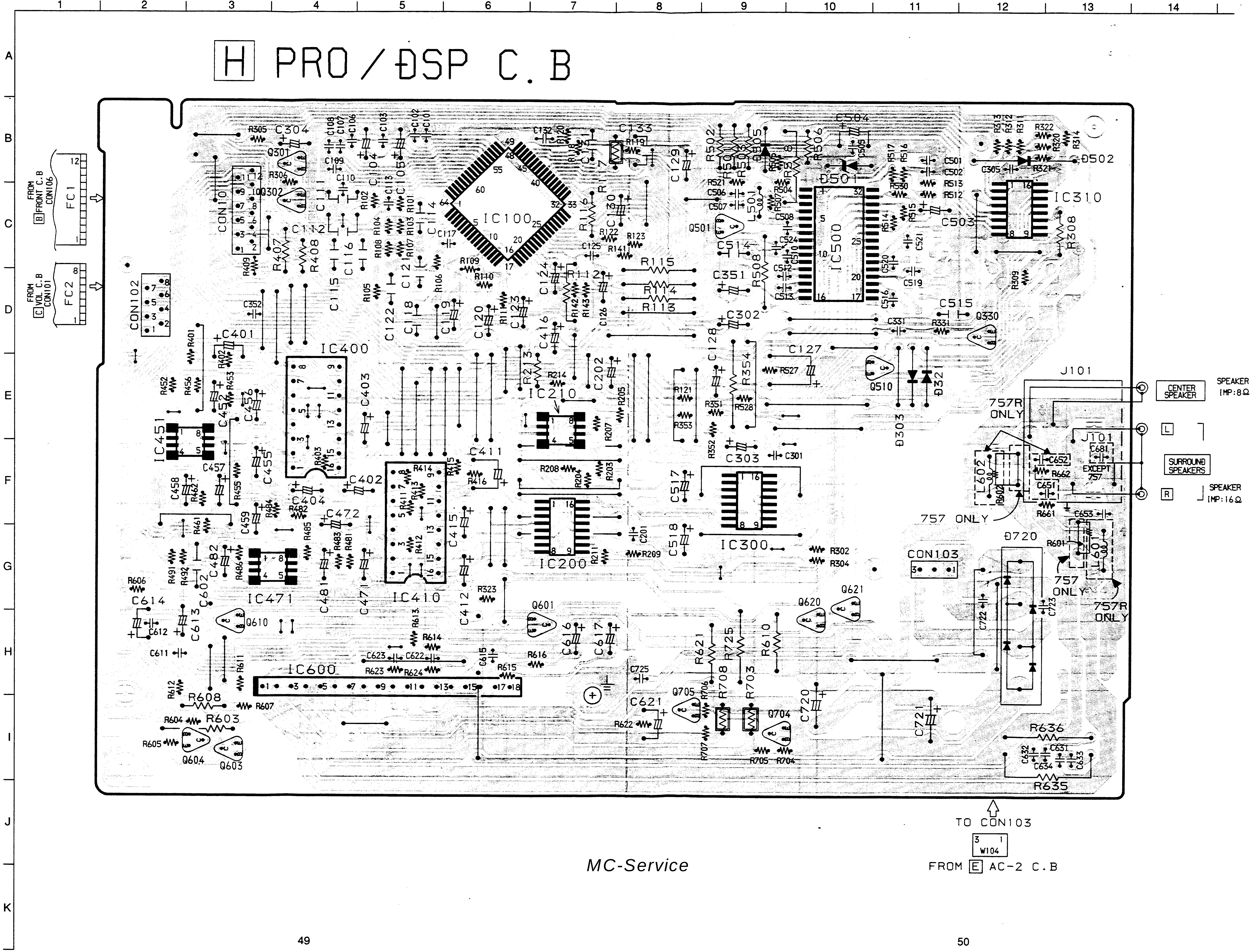
IC101 M62412P

| MODE | PIN⑨ SW1 GEQ A | PIN⑩ SW2 GEQ B |
|---|---|---|
| EQ OFF | L | L |
| ROCK | H | L |
| POP | L | H |
| CLASSIC | H | H |

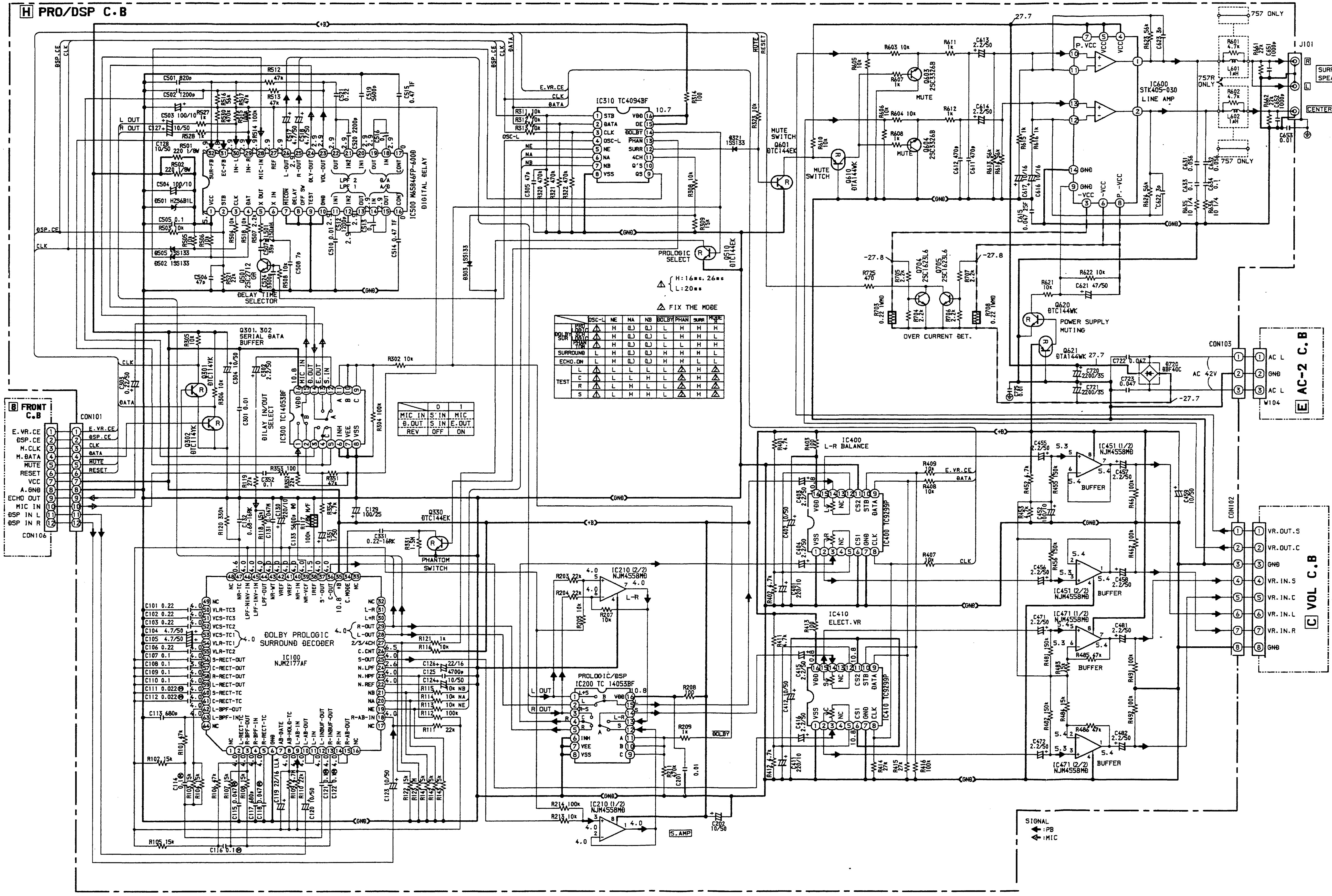
IC104 TC4062BF

| MODE | PIN⑩ T-BASS A | PIN⑨ T-BASS B |
|---|---|---|
| LEVEL1 | L | L |
| LEVEL2 | H | L |
| LEVEL3 | L | H |
| LEVEL4 | H | H |

# H PRO / DSP C.B


FROM B FRONT C.B CON106
FC1
FROM C VOL C.B CON101
FC2
CON101
CON102
IC100
IC200
IC210
IC300
IC310
IC400
IC410
IC451
IC471
IC500
IC600
D501
D502
D720
J101
757R ONLY
757 ONLY
EXCEPT 757
CENTER SPEAKER
SPEAKER IMP:8Ω
L
SURROUND SPEAKERS
R
SPEAKER IMP:16Ω
CON103
TO CON103
W104
FROM E AC-2 C.B

# SCHEMATIC DIAGRAM-7 (PRO / DSP: 757, 757R MODELS)


H PRO/DSP C.B
B FRONT C.B
CON106
CON101
E.VR.CE
DSP.CE
M.CLK
M.DATA
MUTE
RESET
VCC
A.GND
ECHO OUT
MIC IN
DSP IN L
DSP IN R
L OUT
R OUT
IC500 M65846FP-6000 DIGITAL DELAY
DELAY TIME SELECTOR
Q501 2SC2712 GR
IC310 TC4094BF
PROLOGIC SELECT
Q510 DTC144EK
Q321 1SS133
Q301, 302 SERIAL DATA BUFFER
Q301 DTC114YK
Q302 DTC114YK
DILAY IN/OUT SELECT IC300 TC14053BF
R302 10k
R304 100k
Q330 DTC144EK
PHANTOM SWITCH
DOLBY PROLOGIC SURROUND DECODER
IC100 NJM2177AF
IC210 (2/2) NJM4558MD
IC210 (1/2) NJM4558MD
L-R
PROLOGIC/DSP IC200 TC14053BF
DOLBY
S.AMP
MUTE SWITCH
Q601 DTC144EK
Q610 DTA144WK
Q603 2SC3326B
Q604 2SC3326B
MUTE
IC600 STK405-030 LINE AMP
757 ONLY
757R ONLY
J101
SURROUND SPEAKER
CENTER SPEAKER
Q704 2SC1623L6
Q705 2SC1623L6
OVER CURRENT DET.
Q620 DTC144WK
POWER SUPPLY MUTING
Q621 DTA144WK
D720 DBF40C
AC 42V
CON103
W104
AC L
GND
E AC-2 C.B
IC400 L-R BALANCE
IC400 TC9239P
IC410 ELECT.VR
IC410 TC9239P
IC451 (1/2) NJM4558MD
IC451 (2/2) NJM4558MD
IC471 (1/2) NJM4558MD
IC471 (2/2) NJM4558MD
BUFFER
CON102
VR.OUT.S
VR.OUT.C
VR.IN.S
VR.IN.C
VR.IN.L
VR.IN.R
C VOL C.B
SIGNAL
:PB
:MIC
27.7
-27.7
-27.8
(+B)
(GND)

△1 { H:16ms, 26ms
L:20ms

△2 FIX THE MODE

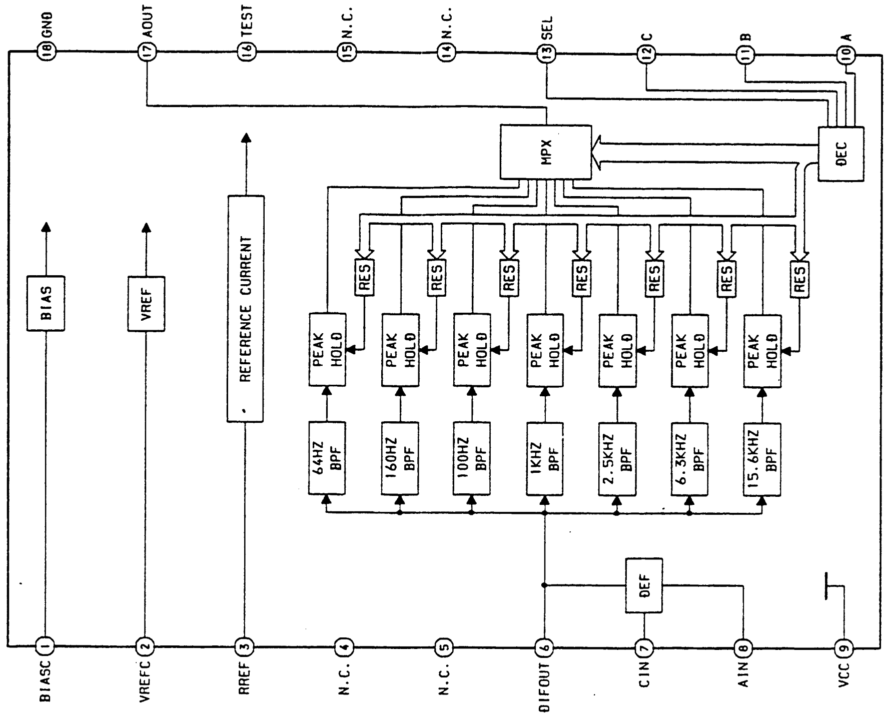
| | | OSC-L | NE | NA | NB | DOLBY | PHAN | SURR | MODE |
|---|---|---|---|---|---|---|---|---|---|
| DOLBY SUR | PRO LOGIC | △1 | H | (L) | (L) | L | H | H | H |
| | 3CH LOGIC | △1 | H | (L) | (L) | L | H | H | L |
| | PHANTOM | △1 | H | (L) | (L) | L | L | H | H |
| SURROUND | | L | H | (L) | (L) | H | H | H | L |
| ECHO.ON | | L | H | (L) | (L) | H | H | L | L |
| TEST | L | △1 | L | L | L | L | △2 | H | △2 |
| | C | △1 | L | L | H | L | △2 | H | △2 |
| | R | △1 | L | H | L | L | △2 | H | △2 |
| | S | △1 | L | H | H | L | △2 | H | △2 |

| | 0 | 1 |
|---|---|---|
| MIC IN | S'IN | MIC |
| D.OUT | S IN | E.OUT |
| REV | OFF | ON |

*MC-Service*

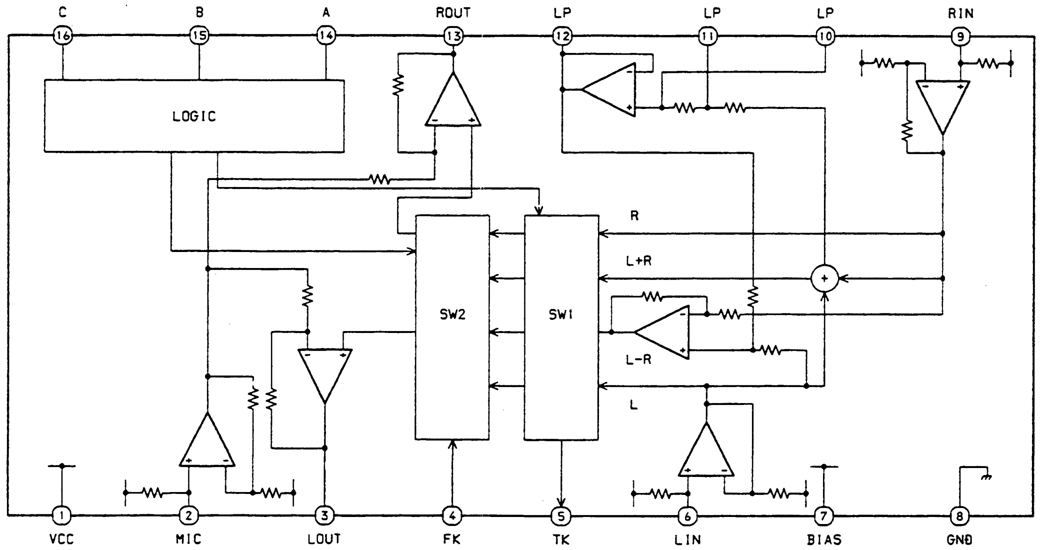
# IC BLOCK DIAGRAM

## IC, BA3834



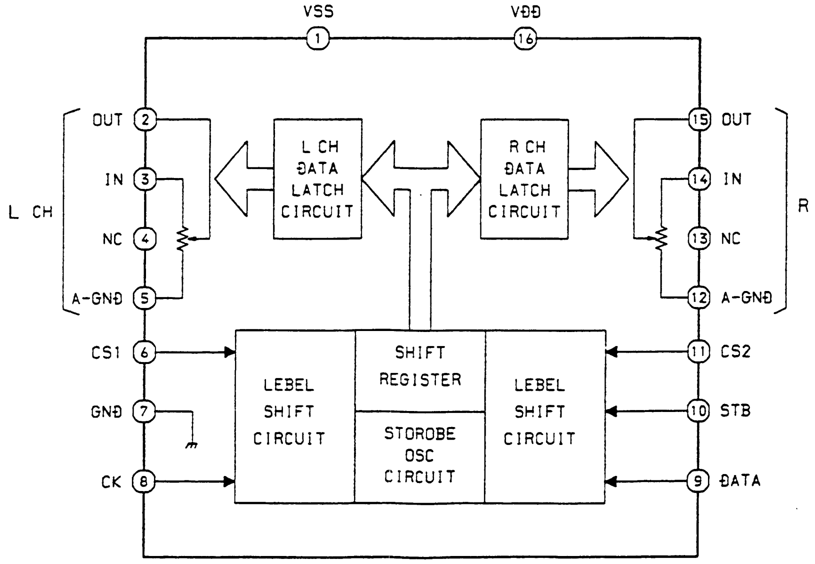
GND 18
ADUT 17
TEST 16
N.C. 15
N.C. 14
SEL 13
C 12
B 11
A 10
HPX
DEC
BIAS
VREF
REFERENCE CURRENT
RES
PEAK HOLD
64HZ BPF
160HZ BPF
100HZ BPF
1KHZ BPF
2.5KHZ BPF
6.3KHZ BPF
15.6KHZ BPF
DEF
1 BIASC
2 VREFC
3 RREF
4 N.C.
5 N.C.
6 DIFOUT
7 CIN
8 AIN
9 VCC

## IC, BA3837



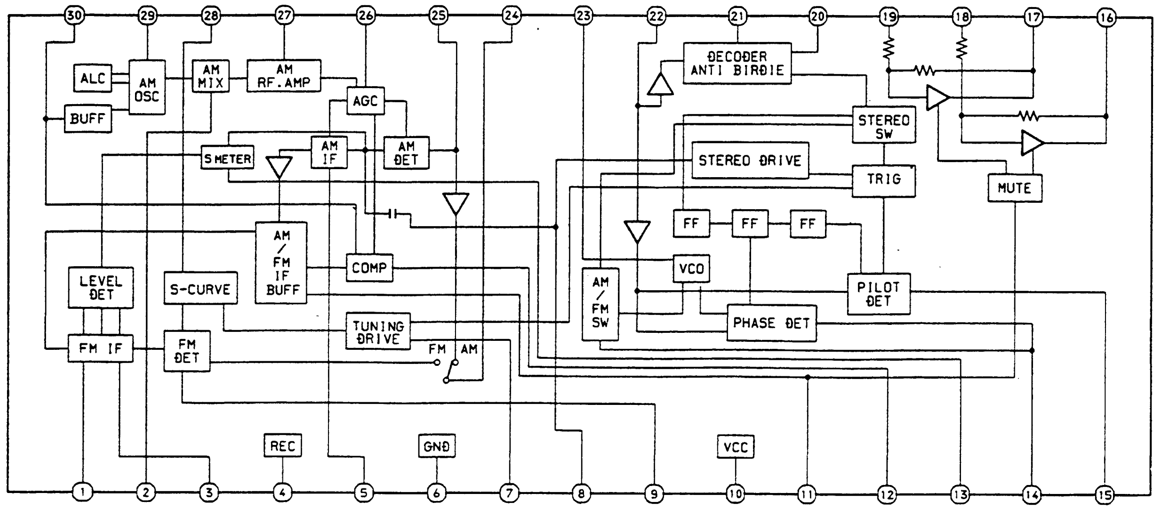
C 16
B 15
A 14
ROUT 13
LP 12
LP 11
LP 10
RIN 9
LOGIC
R
L+R
L-R
L
SW2
SW1
1 VCC
2 MIC
3 LOUT
4 FK
5 TK
6 LIN
7 BIAS
8 GND

## IC, TC9299



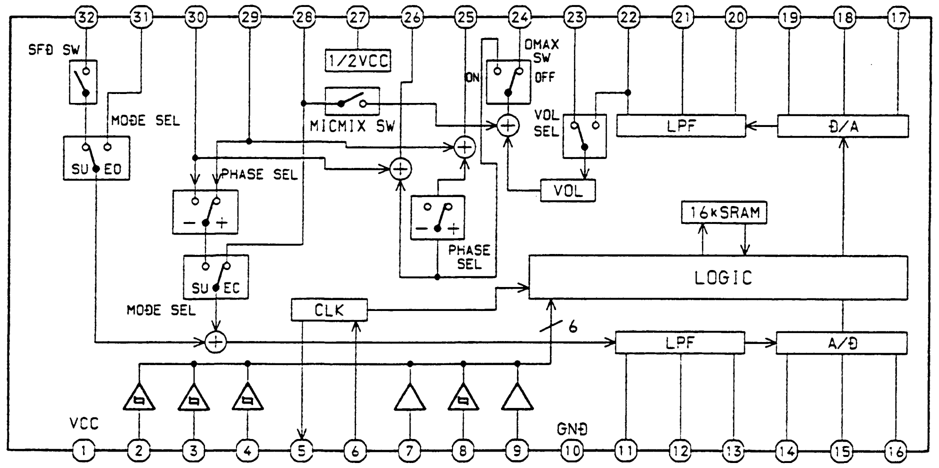
VSS 1
VDD 16
OUT 2
IN 3
NC 4
A-GND 5
L CH
CS1 6
GND 7
CK 8
L CH DATA LATCH CIRCUIT
R CH DATA LATCH CIRCUIT
LEBEL SHIFT CIRCUIT
SHIFT REGISTER
STOROBE OSC CIRCUIT
15 OUT
14 IN
13 NC
12 A-GND
R CH
11 CS2
10 STB
9 DATA

## IC, LA1836



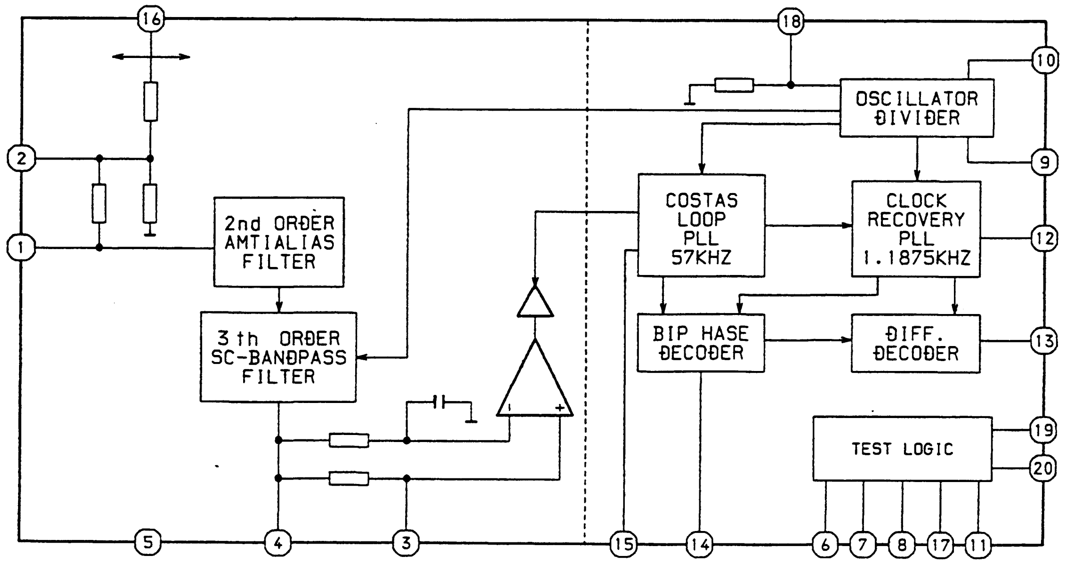
ALC
BUFF
AM OSC
AM MIX
AM RF.AMP
AGC
S METER
AM IF
AM DET
AM / FM IF BUFF
COMP
LEVEL DET
S-CURVE
FM IF
FM DET
TUNING DRIVE
FM AM
DECODER ANTI BIRDIE
STEREO SW
STEREO DRIVE
TRIG
MUTE
FF
VCO
AM / FM SW
PHASE DET
PILOT DET
REC
GND
VCC

## IC, M65846P



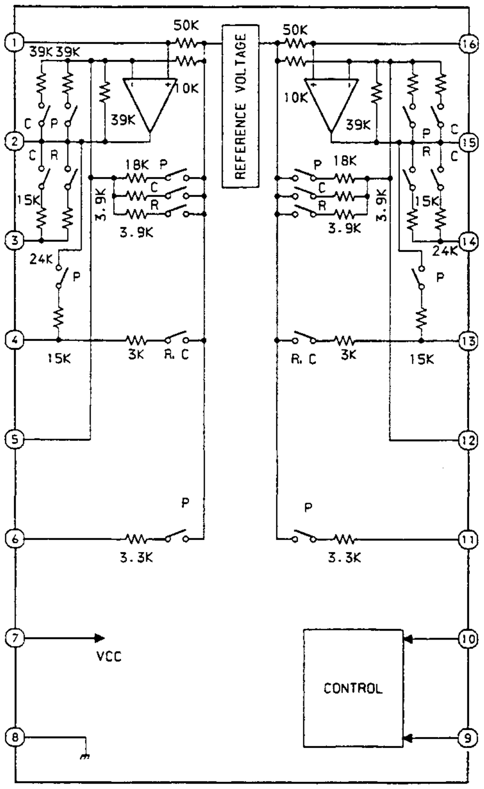
SFD SW
MODE SEL
SU EO
PHASE SEL
SU EC
MODE SEL
1/2VCC
MICMIX SW
DMAX SW
ON
OFF
VOL SEL
VOL
LPF
D/A
16kSRAM
LOGIC
CLK
6
LPF
A/D
VCC
GND

## IC, TDA7330



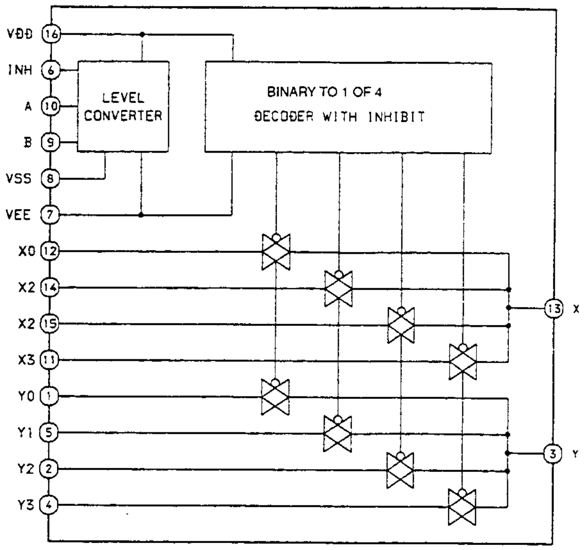
2nd ORDER AMTIALIAS FILTER
3 th ORDER SC-BANDPASS FILTER
OSCILLATOR DIVIDER
COSTAS LOOP PLL 57KHZ
CLOCK RECOVERY PLL 1.1875KHZ
BIP HASE DECODER
DIFF. DECODER
TEST LOGIC

## IC, M6241P



50K
39K 39K
10K
39K
REFERENCE VOLTAGE
18K
3.9K
15K
24K
3K
R. C
P
C
R
3.3K
VCC
CONTROL

## IC, BU4052



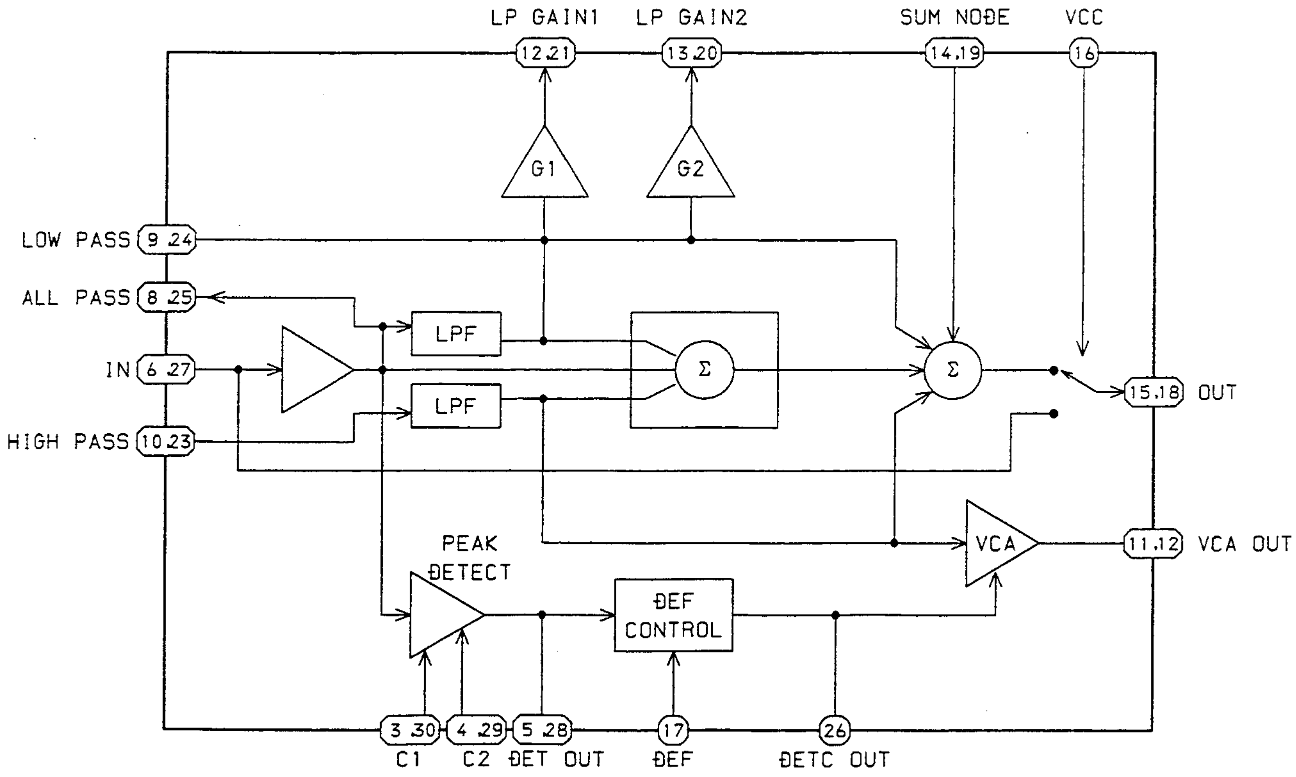
VDD
INH
A
B
VSS
VEE
X0
X2
X2
X3
Y0
Y1
Y2
Y3
LEVEL CONVERTER
BINARY TO 1 OF 4 DECODER WITH INHIBIT
X
Y

TRUTH TABLE

| INHIBIT | A | B | NO SWITCH |
|---|---|---|---|
| L | L | L | X0 Y0 |
| L | H | L | X1 Y1 |
| L | L | H | X2 Y2 |
| L | H | H | X3 Y3 |
| H | X | X | NONE |

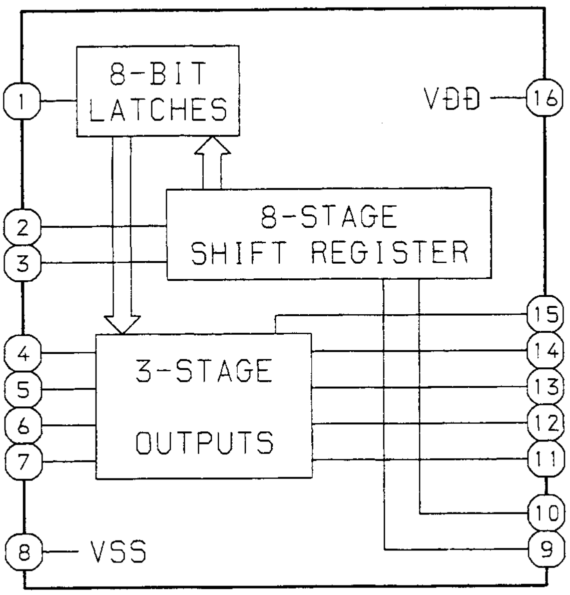
X:DON'T CARE.

## IC, XR1071CP

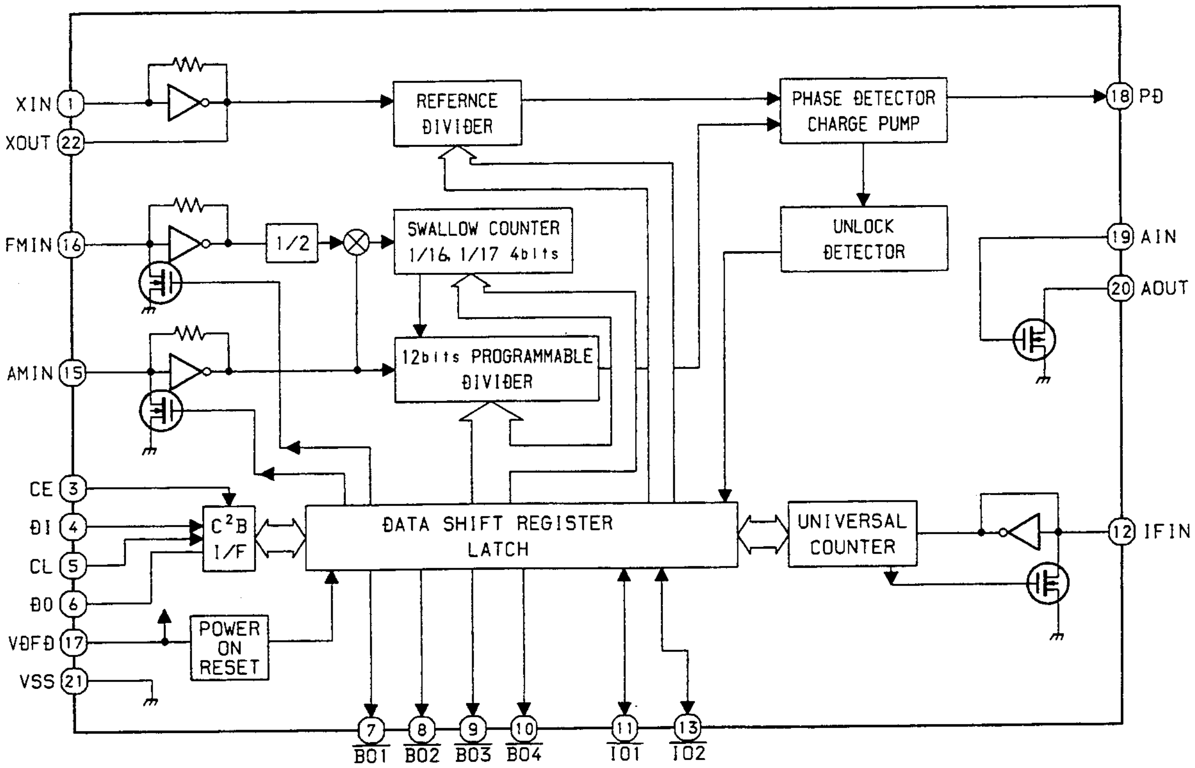


LP GAIN1
LP GAIN2
SUM NODE
VCC
12 21
13 20
14 19
16
G1
G2
LOW PASS 9 24
ALL PASS 8 25
IN 6 27
HIGH PASS 10 23
LPF
LPF
Σ
Σ
15 18 OUT
VCA
11 12 VCA OUT
PEAK DETECT
DEF CONTROL
3 30
4 29
5 28
17
26
C1
C2
DET OUT
DEF
DETC OUT

## IC, TC4094BF


8-BIT LATCHES
VDD
8-STAGE SHIFT REGISTER
3-STAGE OUTPUTS
VSS
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

## IC, LC72131


XIN 1
XOUT 22
FMIN 16
AMIN 15
CE 3
DI 4
CL 5
DO 6
VDFD 17
VSS 21
REFERNCE DIVIDER
1/2
SWALLOW COUNTER 1/16, 1/17 4bits
12bits PROGRAMMABLE DIVIDER
PHASE DETECTOR CHARGE PUMP
UNLOCK DETECTOR
C²B I/F
DATA SHIFT REGISTER LATCH
UNIVERSAL COUNTER
POWER ON RESET
18 PD
19 AIN
20 AOUT
12 IFIN
7 BO1
8 BO2
9 BO3
10 BO4
11 IO1
13 IO2

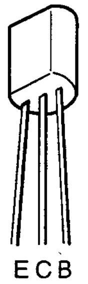
# IC DESCRIPTION

## IC, LC866440W

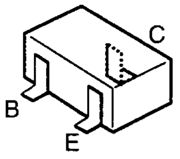
| Pin No. | Pin name | I/O | Description |
|---|---|---|---|
| 1 | O-PLLCE | O | PLL IC chip enable output. |
| 2 | O-KC/CE | O | Key control IC, data latch strobe output. |
| 3 | O-STB (M) | O | Main shift register, data latch strobe output. |
| 4 | O-DATA (M) | O | Main shift register/PLL/DSP related, data output. |
| 5 | O-CLK (M) | O | Main shift register/PLL/DSP related, data transfer clock output. |
| 6 | I-HOLD | I | Power failure sensing input (Hold at "L"). |
| 7 | RESET | — | Reset input (Reset at "L"). |
| 8 | I-STEREO | I | Tuner stereo sensing input. |
| 9 | I-TUNE/IFC | I | Tuner, SD sensing input/IF count serial data input. |
| 10 | VSS1 | — | GND. |
| 11 | CF1 | — | 5.76 MHz oscillator. |
| 12 | CF2 | — | 5.76 MHz oscillator. |
| 13 | VDD | — | Power supply input. |
| 14 | I-KEY1 | I | Key 1 A/D input. |
| 15 | I-KEY2 | I | Key 2 A/D input. |
| 16 | I-SIG | I | Signal level input for RDS. |
| 17 | GND | — | GND terminal. |
| 18 | GND | — | GND terminal. |
| 19 | GND | — | GND terminal. |
| 20 | I-SPEANA | I | Spectrum analyzer level A/D input. |
| 21 | I-MIC | I | Mic level A/D input for auto vocal fader. |
| 22 | I-TMBASE | I | Reference clock input for watch (Automatically supporting 8/50/60 Hz). |
| 23 | I-RDCL | I | Clock input for RDS. |
| 24 | I-RMC | I | System remote control input. (active Low). |
| 25~37 | G13~G1 | O | FL grid output (G13~G1). |
| 38~40 | S23~S21 | O | FL segment output. |
| 41 | VDD2 | — | Power supply input. |
| 42 | –VP | — | Power supply for display. |
| 43~48 | S20~S15 | I/O | FL segment output. |
| 49 | S14 | I/O | FL segment output/Diode input supporting non-PRO. |
| 50 | S13 | I/O | FL segment output/Diode input supporting RDS. |
| 51 | S12 | I/O | FL segment output/Diode input supporting FM-JPN. |
| 52 | S11 | I/O | FL segment output/Diode input supporting AMST. |
| 53 | S10 | I/O | FL segment output/Diode input supporting AM10 K. |
| 54 | S1 | I/O | FL segment output/Diode input supporting LW. |
| 55 | S2 | I/O | FL segment output/Diode input supporting SW. |
| 56 | S3 | I/O | FL segment output/Diode input supporting non-BBE. |
| 57 | S4 | I/O | FL segment output/Diode input supporting non-DSP. |
| 58 | S5 | I/O | FL segment output/Diode input supporting K-CON. |
| 59 | S6 | I/O | FL segment output/Diode input supporting NTSC. |
| 60 | S7 | O | FL segment output. |

| Pin No. | Pin name | I/O | Description |
|---|---|---|---|
| 61 | S8 | O | CD tray close output. |
| 62 | S9 | O | CD tray open output. |
| 63 | O-$\overline{\text{SWSCAN}}$ | O | CD turntable reverse direction rotation output/SW scan (timing output). |
| 64 | E.VR.CE | O | CD turntable forward direction rotation output/Electronic volume chip enable. |
| 65 | I-RDDA | I | Data input for RDS. |
| 66 | I-QUAL | I | Data discrimination input for RDS. |
| 67 | I-HP | I | Infinite large to sensor, surround VOL, TC9299 when I-HP is "H". |
| 68 | GND | — | GND. |
| 69 | $\overline{\text{O-POWER}}$ | O | System power supply $\overline{\text{ON}}$/OFF output. |
| 70 | O-STB (F) | O | Front shift register, data latch strobe output. |
| 71 | O-CLK (F) | O | Front shift register, data transfer clock output. |
| 72 | O-DATA (F) | O | Front shift register, data output. |
| 73 | VSS2 | — | GND. |
| 74 | O-$\overline{\text{SO}}$ | O | FD control data output. |
| 75 | I-SI | I | FD control data input. |
| 76 | O-$\overline{\text{SCK}}$ | O | FD control data, transfer clock output. |
| 77 | O-DSPCE | O | DSP data latch strobe output (note) Take care of output delay. |
| 78 | O-$\overline{\text{REQ}}$ | O | FD control data latch output |
| 79 | O-$\overline{\text{SHIFT}}$ | O | Microprocessor clock shift output during tuner reception. |
| 80 | $\overline{\text{O-MUTE}}$ | O | System mute $\overline{\text{ON}}$/OFF output. |

## TRANSISTOR ILLUSTRATION

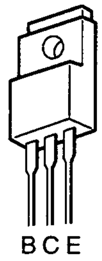


2SA1318
2SC1815
2SC2001
2SC2240
2SC3266
2SD655
KTA1266
KTC3198

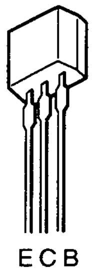


2SA1162
2SC1623
2SC2712
2SC2714
2SC3326

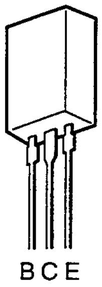
DTA143EK
DTA144EK
DTA144WK
DTC114YK
DTC144EK
DTC144WK



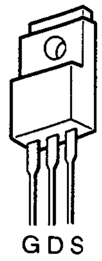
2SB1370



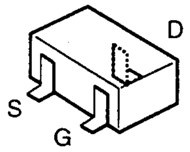
2SC1740S
DTA114YS



2SD2005



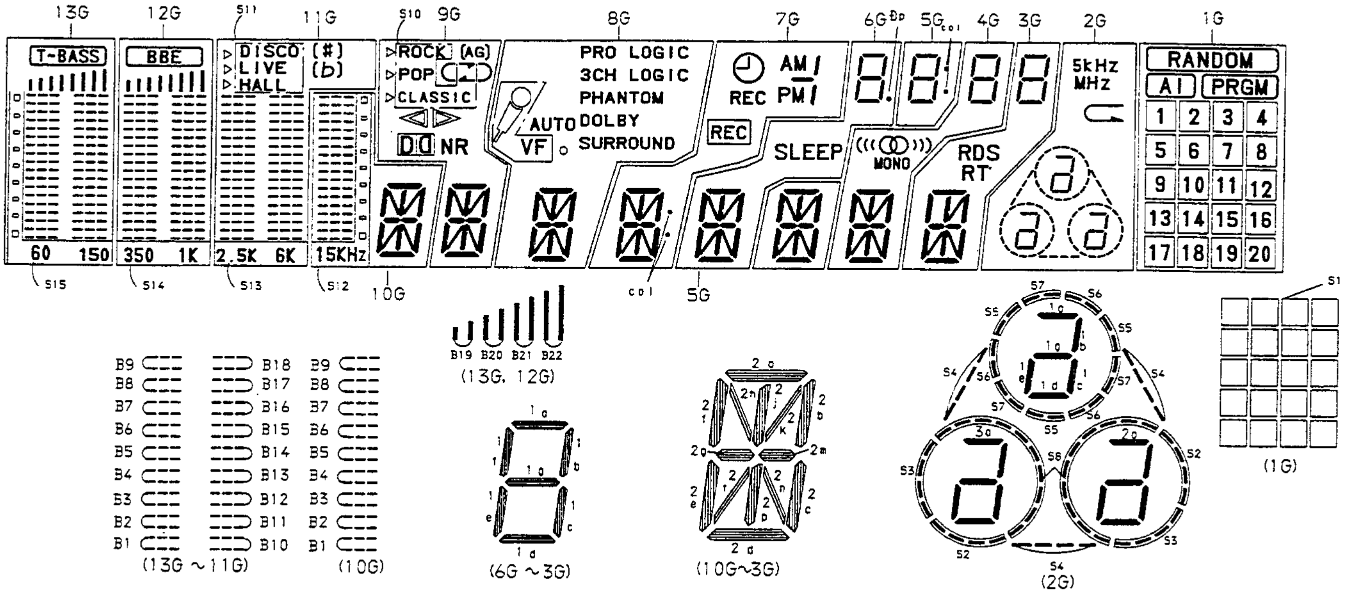
2SJ176
2SK1094



2SK543

# FL (BJ371GK) GRID ASSIGNMENT ⁄ ANODE CONNECTION

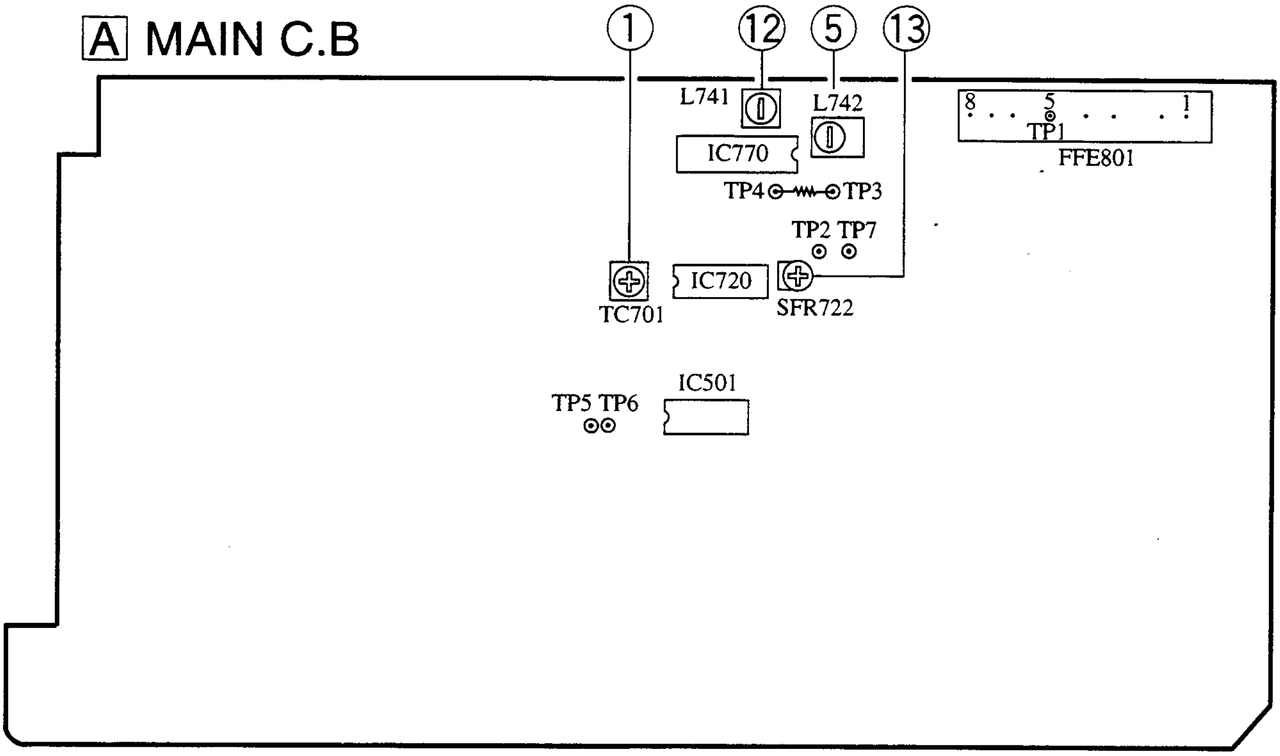
## GRID ASSIGNMENT

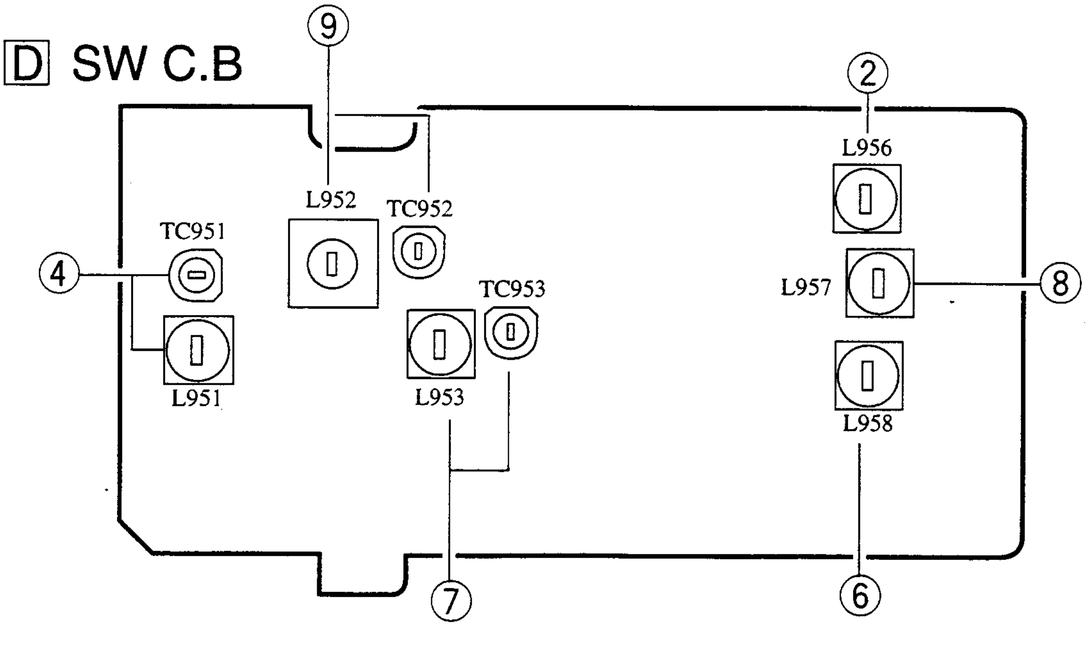

13G
12G
S11
11G
S10
9G
8G
7G
6G
Dp
5G
col
4G
3G
2G
1G
T-BASS
BBE
DISCO
LIVE
HALL
(#)
(b)
ROCK
(AG)
POP
CLASSIC
DD NR
PRO LOGIC
3CH LOGIC
PHANTOM
AUTO
DOLBY
VF
SURROUND
AM
PM
REC
SLEEP
MONO
RDS
RT
5kHz
MHz
RANDOM
AI
PRGM
1 2 3 4
5 6 7 8
9 10 11 12
13 14 15 16
17 18 19 20
60 150
350 1K
2.5K 6K
15KHz
S15
S14
S13
S12
10G
col
5G
S1
B19 B20 B21 B22
(13G, 12G)
B9 B8 B7 B6 B5 B4 B3 B2 B1
B18 B17 B16 B15 B14 B13 B12 B11 B10
(13G ~ 11G)
(10G)
1a 1b 1c 1d 1e 1f 1g
(6G ~ 3G)
2a 2b 2c 2d 2e 2f 2g 2h 2j 2k 2m 2n 2p 2r
(10G~3G)
S2 S3 S4 S5 S6 S7 S8
3a
2a
(2G)
(1G)

## ANODE CONNECTION

| | 13G | 12G | 11G | 10G | 9G | 8G | 7G | 6G | 5G | 4G | 3G | 2G | 1G |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P1 | B10 | B10 | B10 | 2d | 2d | 2d | 2d | 2d | 2d | 2d | 2d | S2 | **20** |
| P2 | B1 | B1 | B1 | 2n | 2n | 2n | 2n | 2n | 2n | 2n | 2n | S3 | **19** |
| P3 | B11 | B11 | B11 | 2p | 2p | 2p | 2p | 2p | 2p | 2p | 2p | 3e | **18** |
| P4 | B2 | B2 | B2 | 2r | 2r | 2r | 2r | 2r | 2r | 2r | 2r | 3c | **17** |
| P5 | B12 | B12 | B12 | 2e | 2e | 2e | 2e | 2e | 2e | 2e | 2e | 3a,3d,3g | **16** |
| P6 | B3 | B3 | B3 | 2c | 2c | 2c | 2c | 2c | 2c | 2c | 2c | 3b | **15** |
| P7 | B13 | B13 | B13 | 2g | 2g | 2g | 2g | 2g | 2g | 2g | 2g | 2e | **14** |
| P8 | B4 | B4 | B4 | 2m | 2m | 2m | 2m | 2m | 2m | 2m | 2m | 2c | **13** |
| P9 | B5 | B5 | B5 | 2f | 2f | 2f | 2f | 2f | 2f | 2f | 2f | 2a,2d,2g | **12** |
| P10 | B15 | B15 | B15 | 2b | 2b | 2b | 2b | 2b | 2b | 2b | 2b | S4 | **11** |
| P11 | B6 | B6 | B6 | 2k | 2k | 2k | 2k | 2k | 2k | 2k | 2k | S5 | **10** |
| P12 | B16 | B16 | B16 | 2j | 2j | 2j | 2j | 2j | 2j | 2j | 2j | S6 | **9** |
| P13 | B7 | B7 | B7 | 2h | 2h | 2h | 2h | 2h | 2h | 2h | 2h | S7 | **8** |
| P14 | B14 | B14 | B14 | 2a | 2a | 2a | 2a | 2a | 2a | 2a | 2a | 2b | **7** |
| P15 | B17 | B17 | B17 | B1 | **DD NR** | ○ | col (上) | Dp | col (下) | ((◎)) | **RT** | 1e | **6** |
| P16 | B8 | B8 | B8 | B2 | ◁ | S9 | col (下) | 1d | 1d | 1d | 1d | 1a,1d,1g | **5** |
| P17 | B18 | B18 | B18 | B3 | ▷ | **AUTO** | **REC** | 1e | 1e | 1e | 1e | 1c | **4** |
| P18 | B9 | B9 | B9 | B4 | ▷ (CLASSIC) | **SURROUND** | **PM** | 1c | 1c | 1c | 1c | 1b | **3** |
| P19 | B19 **T-BASS** | B19 **BBE** | ▷ (DISCO) | B5 | ▷ (POP) | **DOLBY** | **AM** | 1g | 1g | 1g | 1g | S8 | **2** |
| P20 | B20 | B20 | ▷ (LIVE) | B6 | ▷ (ROCK) | **PHANTOM** | — | 1f | 1f | 1f | 1f | **MHz** | **1** |
| P21 | B21 | B21 | ▷ (HALL) | B7 | ( | **3CH LOGIC** | / | 1b | 1b | 1b | 1b | ↪ | **AI** |
| P22 | B22 | B22 | ((b)) | B8 | ) | **3CH LOGIC** | ◷ | 1a | 1a | 1a | 1a | **KHz** | **RANDOM** |
| P23 | – | – | ((#)) | B9 | **(AG)** | – | **REC** | **SLEEP** | col (上) | **MONO** | **RDS** | **5** | **PRGM** |
| P24 | S15 **T-BASS** | S14 | S13 | S12 | S10 | – | – | – | – | – | – | – | S1 |
| P25 | – | **BBE** | – | – | – | – | – | – | – | – | – | – | – |
| P26 | – | – | S11 | – | – | – | – | – | – | – | – | – | – |
| P26 | – | – | # b | – | – | – | – | – | – | – | – | – | – |

## HE, HR, HK MODELS


A MAIN C.B
①
⑫
⑤
⑬
L741
L742
IC770
TP4
TP3
8
5
1
TP1
FFE801
TP2 TP7
TC701
IC720
SFR722
IC501
TP5 TP6


D SW C.B
⑨
②
L956
L952
TC952
TC951
④
L957
⑧
TC953
L951
L953
L958
⑦
⑥

*MC-Service*

## TUNER SECTION

1. Clock Adjustment
   Settings: • Test point: TP2
   • Adjustment location: TC701
   Method: Set to MW 1710kHz and adjust TC701 so that the test point becomes 2160kHz±0.01kHz.

2. MW VT Adjustment
   Settings: • Test point: TP1
   • Adjustment location: L956
   Method: Set to MW 1710kHz adjust L956 so that the test point becomes 8.5V±0.05V.

3. MW VT Check
   Settings: • Test point: TP1
   Method: Set to MW 530kHz and check that the test point is more than 0.3V.

4. MW Tracking Adjustment
   Settings: • Test point: TP5, TP6
   • Adjustment location:
   L951 .............................................. 600kHz
   TC951 ........................................ 1400kHz
   Method: Set up TC951 to center before adjustment. The level at 600kHz is adjusted to MAX by L951. Then the level at 1400kHz is done by TC951.

5. AM IF Adjustment
   Settings: • Test point: TP5, TP6
   L742 .............................................. 450kHz

6. SW-2 VT Adjustment
   Settings: • Test point: TP1
   • Adjustment location: L958
   Method: Set to SW-2 21.85MHz adjust L958 so that the test point becomes 8.0V±0.05V.

7. SW-2 Tracking Adjustment
   Settings: • Test point: TP5, TP6
   • Adjustment location:
   L953 ............................................ 9.5MHz
   TC953 ..................................... 21.85MHz
   Method: Set up TC953 to center before adjustment. The level at 9.5MHz is adjusted to MAX by L953. Then the level at 21.85MHz is done by TC953.

8. SW-1 VT Adjustment
   Settings: • Test point: TP1
   • Adjustment location: L957
   Method: Set to SW-1 7.3MHz and adjust L957 so that the test point becomes 7.7V±0.05V.

9. SW-1 Tracking Adjustment
   Settings: • Test point: TP5, TP6
   • Adjustment location:
   L952 ............................................. 3.2MHz
   TC952 ......................................... 7.3MHz
   Method: Set up TC952 to center before adjustment. The level at 3.2MHz is adjusted to MAX by L952. Then the level at 7.3MHz is done by TC952.

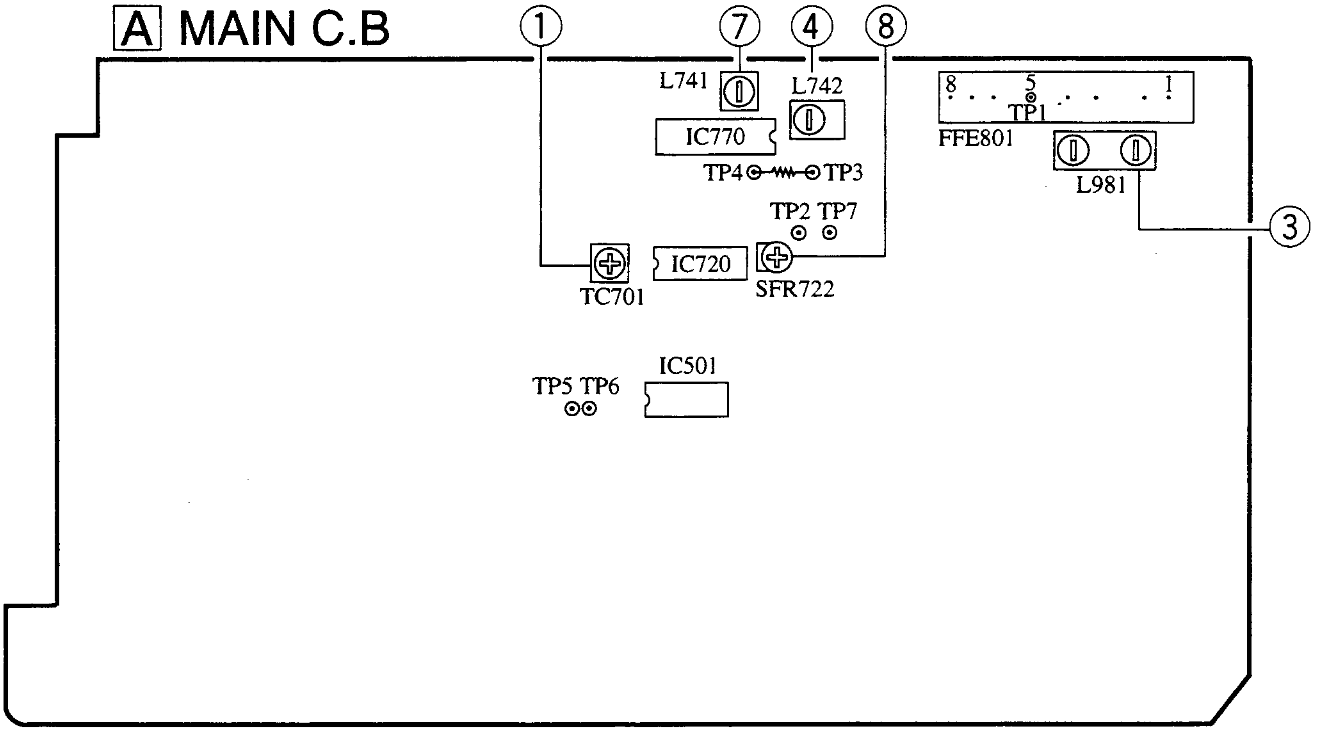
10. FM VT Check
    Settings: • Test point: TP1
    Method: Set to FM 87.5MHz and check that the test point is more than 1.0V. Then set to FM 108MHz and check that the test point is less than 8.0V.

11. FM Tracking Check
    Settings: • Test point: TP5, TP6
    Check that the test point is 2±6dB and distortion is less than 3% at FM 98.0MHz.

12. DC Balance/MONO Distortion Adjustment
    Settings: • Test point: TP3, TP4 (DC balance)
    TP5, TP6 (Distortion)
    • Adjustment location: L741
    • Input level: 54dB
    Method: Set to FM 98.0MHz and adjust L741 so that the voltage between TP3 and TP4 becomes 0V±0.04V. Next check that the distortion is less than 1.3%.

13. Auto stop Level Adjustment
    Settings: • Test point: TP7
    • Adjustment location: SFR722
    • Input level: 16dB
    Method: Set to FM 98.0MHz and adjust voltage low (about 0.01V) by SFR722. After that voltage high (about 7.0V) out by 2dB down.

## LH, U MODELS



## TUNER SECTION

1. Clock Adjustment
   Settings: • Test point: TP2
   • Adjustment location: TC701
   Method: Set to AM 1710kHz and adjust TC701 so that the test point becomes 2160kHz±0.01kHz.

2. AM VT Check
   Settings: • Test point: TP1
   Method: Set to AM 1710kHz and check that the test point is 7.0±1.0V.

3. AM Tracking Adjustment
   Settings: • Test point: TP5, TP6
   • Adjustment location: L981
   Method: Set to AM 1000kHz and adjust L981 that the test point becomes maximum.

4. AM IF Adjustment
   Settings: • Test point: TP5, TP6
   L742 ............................................ 450kHz

5. FM VT Check
   Settings: • Test point: TP1
   Method: Set to FM 87.5MHz and check that the test point is more than 1.0V.
   Then set to FM 108MHz and check that the test point is less than 8.0V.

6. FM Tracking Check
   Settings: • Test point: TP5, TP6
   Check that the test point is 2±6dB and distortion is less than 3% at FM 98.0MHz.

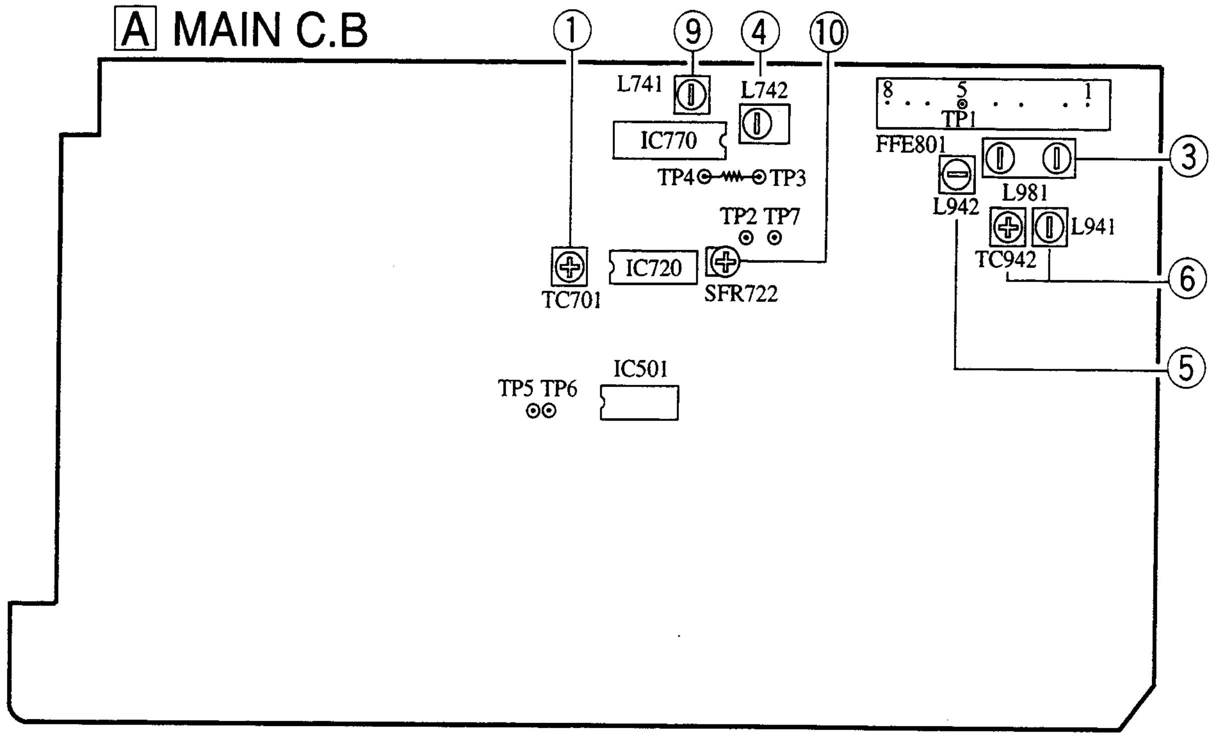
7. DC Balance/MONO Distortion Adjustment
   Settings: • Test point: TP3, TP4 (DC balance)
   TP5, TP6 (Distortion)
   • Adjustment location: L741
   • Input level: 54dB
   Method: Set to FM 98.0MHz and adjust L741 so that the voltage between TP3 and TP4 becomes 0V±0.04V. Next check that the distortion is less than 1.3%.

8. Auto stop Level Adjustment
   Settings: • Test point: TP7
   • Adjustment location: SFR722
   • Input level: 18dB
   Method: Set to FM 98.0MHz and adjust voltage low (about 0.01V) by SFR722. After that voltage high (about 7.0V) out by 2dB down.

*MC-Service*

## RX-N757R/656R MODELS

### A MAIN C.B



### TUNER SECTION

1. Clock Adjustment
   Settings: • Test point: TP2
   • Adjustment location: TC701
   Method: Set to MW 1602kHz and adjust TC701 so that the test point becomes 2052kHz±0.01kHz.

2. MW VT Check
   Settings: • Test point: TP1
   Method: Set to MW 1602kHz and check that the test point is 6.8±1.0V.

3. MW Tracking Adjustment
   Settings: • Test point: TP5, TP6
   • Adjustment location: L981
   • Input level: 18dB
   Method: Set to MW 999kHz and adjust L981 that the test point becomes maximum.

4. MW IF Adjustment
   Settings: • Test point: TP5, TP6
   L742 .............................................. 450kHz

5. LW VT Adjustment
   Settings: • Test point: TP1
   • Adjustment location: L942
   Method: Set to LW 144kHz adjust L942 so that the test point becomes 1.5V±0.05V.

6. LW Tracking Adjustment
   Settings: • Test point: TP5, TP6
   • Adjustment location:
   L941 .............................................. 144kHz
   TC942 ........................................... 290kHz
   Method: Set up TC942 to center before adjustment. The level at 144kHz is adjusted to MAX by L941. Then the level at 290kHz is adjusted to MAX by TC942.

7. FM VT Check
   Settings: • Test point: TP1
   Method: Set to FM 87.5MHz and check that the test point is more than 1.5V. Then set to FM 108MHz and check that the test point is less than 8.2V.

8. FM Tracking Check
   Settings: • Test point: TP5, TP6
   Check that the test point is 2±6dB and distortion is less than 3% at FM 98.0MHz.

9. DC Balance/MONO Distortion Adjustment
   Settings: • Test point: TP3, TP4 (DC balance)
   TP5, TP6 (Distortion)
   • Adjustment location: L741
   • Input level: 54dB
   Method: Set to FM 98.0MHz and adjust L741 so that the voltage between TP3 and TP4 becomes 0V±0.04V. Next check that the distortion is less than 1.3%.

10. Auto stop Level Adjustment
   Settings: • Test point: TP7
   • Adjustment location: SFR722
   • Input level: 18dB
   Method: Set to FM 98.0MHz and adjust voltage low (about 0.01V) by SFR722. After that voltage high (about 7.0V) out by 2dB down.

## PRACTICAL SERVICE FIGURE

### TUNER SECTION

#### < FM SECTION > RX-N757 MODEL

| | |
|---|---|
| IHF Sensitivity: | 4dB±6dB (87.5MHz) |
| (THD 3%) | 2dB±6dB (98.0MHz) |
| | 2dB±6dB (108.0MHz) |
| S/N 50dB Quieting sensitivity: | 30dB±5dB |
| | (87.5/98.0/108.0MHz) |
| Signal to noise ratio: | More than 64dB (98.0MHz) |
| Distortion: | Less than 1.2% (98.0MHz) |
| Stereo separation: | More than 25dB (98.0MHz) |
| Intermediate frequency: | 10.7MHz |

#### < FM SECTION > RX-N757R/656R MODELS

| | |
|---|---|
| IHF Sensitivity: | 7dB±6dB (87.5MHz) |
| (THD 3%) | 4dB±6dB (98.0MHz) |
| | 4dB±6dB (108.0MHz) |
| S/N 50dB Quieting sensitivity: | 35dB±5dB |
| | (87.5/98.0/108.0MHz) |
| Signal to noise ratio: | More than 64dB (98.0MHz) |
| Distortion: | Less than 1.2% (98.0MHz) |
| Stereo separation: | More than 25dB (98.0MHz) |
| Intermediate frequency: | 10.7MHz |

#### < MW SECTION > EXCEPT LH, U MODELS

| | |
|---|---|
| Sensitivity: | 54dB$\pm^{8}_{6}$dB (603kHz) |
| (S/N 20dB) | 53dB±6dB (999kHz) |
| | 53dB±6dB (1404kHz) |
| Distortion: | Less than 1.5% (999kHz) |
| Stereo separation: | More than 12dB (999kHz) |
| Intermediate frequency: | 450kHz |

#### < AM SECTION > LH, U MODELS

| | |
|---|---|
| Sensitivity: | 54dB$\pm^{8}_{6}$dB (600kHz) |
| (S/N 20dB) | 53dB±6dB (1000kHz) |
| | 53dB±6dB (1400kHz) |
| Distortion: | Less than 1.5% (1000kHz) |
| Stereo separation: | More than 12dB (1000kHz) |
| Intermediate frequency: | 450kHz |

#### < SW1 SECTION > HE, HR, HK MODELS

| | |
|---|---|
| Sensitivity: | 32dB$\pm^{5}_{3}$dB (3.20MHz) |
| (S/N 20dB) | 29dB$\pm^{5}_{3}$dB (5.00MHz) |
| | 27dB$\pm^{5}_{3}$dB (7.30MHz) |
| Distortion: | Less than 1.5% (5.00MHz) |
| Intermediate frequency: | 450kHz |

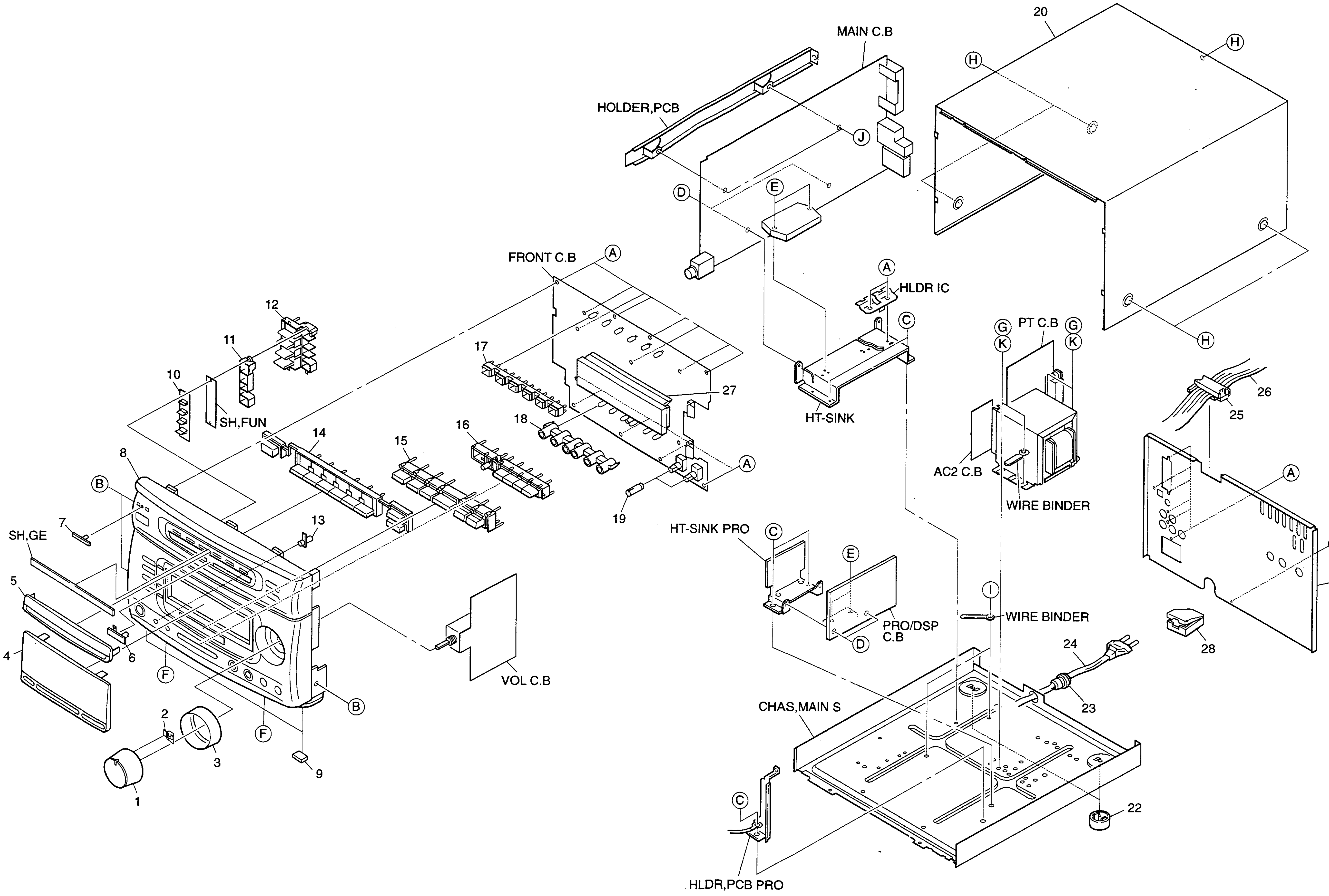
#### < SW2 SECTION > HE, HR, HK MODELS

| | |
|---|---|
| Sensitivity: | 45dB±5dB (9.50MHz) |
| (S/N 20dB) | 40dB±5dB (15.00MHz) |
| | 31dB±5dB (21.85MHz) |
| Distortion: | Less than 1.5% (15.00MHz) |
| Intermediate frequency: | 450kHz |

#### < LW SECTION > RX-N757R/656R MODELS

| | |
|---|---|
| Sensitivity: | 66dB±5dB (144kHz) |
| (S/N 20dB) | 63dB±5dB (198kHz) |
| | 62dB±5dB (290kHz) |
| Distortion: | Less than 1.5% (198kHz) |
| Intermediate frequency: | 450kHz |

## MECHANICAL EXPLODED VIEW 1 ⁄ 1


20
MAIN C.B
H
H
HOLDER,PCB
J
D
E
FRONT C.B
A
A
HLDR IC
C
G
PT C.B
G
K
K
12
11
10
SH,FUN
17
27
18
HT-SINK
26
25
14
15
16
A
AC2 C.B
WIRE BINDER
A
8
B
19
7
13
SH,GE
HT-SINK PRO
C
E
A
5
21
I
WIRE BINDER
6
4
PRO/DSP
C.B
D
28
F
VOL C.B
24
B
23
2
CHAS,MAIN S
F
3
9
1
22
C
HLDR,PCB PRO

# MECHANICAL PARTS LIST 1 / 1

DESCRIPTIONで判断できない物は“REFERENCE NAME LIST”を参照してください。
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

| | REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|---|
| | 1 | 85-NT3-005-019 | | KNOB,VOL |
| | 2 | 83-NEK-080-019 | | IND,VOL |
| | 3 | 83-NT4-011-019 | | RING,VOL |
| | 4 | 85-NT3-004-019 | | WIND,AMP<656REZ> |
| | 4 | 85-NT3-023-019 | | WIND,AMP P<HE,HK,HR,LH,U> |
| | 4 | 85-NT3-024-019 | | WIND,AMP R<K,EE,EZ> |
| | 5 | 83-NT4-008-019 | | WIND,GE |
| | 6 | 85-NT3-006-019 | | BADGE,RDS<656REZ,K,EE,EZ> |
| | 7 | 82-NE8-032-019 | | BADGE AIWA 27.5 |
| | 8 | 85-NT3-008-019 | | CAB,FR EX<K,EE,EZ> |
| | 8 | 85-NT3-011-019 | | CAB,FR EX1<656REZ> |
| | 8 | 85-NT3-001-019 | | CAB,FR H<HE,HK,HR,LH> |
| | 8 | 85-NT3-009-019 | | CAB,FR U<U> |
| | 10 | 83-NT4-010-019 | | IND,FUN |
| | 11 | 83-NT4-202-019 | | GUIDE,LED FUN |
| | 12 | 83-NT4-005-219 | | KEY,FUN |
| | 13 | 83-NT4-014-019 | | LENS,SENSOR |
| | 14 | 83-NT4-004-019 | | KEY,POWER<HE,HK,HR,LH,U> |
| | 14 | 85-NT3-007-019 | | KEY,POWER EX<656REZ,K,EE,EZ> |
| | 15 | 83-NT4-006-019 | | KEY,OPE |
| | 16 | 83-NTE-005-019 | | KEY,KARAOKE 14 |
| | 17 | 83-NT4-201-019 | | GUIDE,LED GE |
| | 18 | 83-NT4-203-019 | | GUIDE,LED OPE |
| | 19 | 84-CF3-009-019 | | KNOB,MIC |
| | 20 | 83-NTE-022-119 | | CAB,STEEL K |
| | 21 | 85-NT3-017-019 | | PANEL,REAR EEBN<EE> |
| | 21 | 85-NT3-019-019 | | PANEL,REAR EZ1BN<656REZ> |
| | 21 | 85-NT3-018-019 | | PANEL,REAR EZBN<EZ> |
| | 21 | 85-NT3-002-019 | | PANEL,REAR HEJBN<HE> |
| | 21 | 85-NT3-020-019 | | PANEL,REAR HKJBN<HK> |
| | 21 | 85-NT3-014-019 | | PANEL,REAR HRJBN<HR> |
| | 21 | 85-NT3-016-019 | | PANEL,REAR KBN<K> |
| | 21 | 85-NT3-015-019 | | PANEL,REAR LHBN<LH> |
| | 21 | 85-NT3-013-019 | | PANEL,REAR UBN<U> |
| | 22 | 87-085-213-019 | | FOOT, H12.5 |
| | 23 | 87-085-185-019 | | BUSHING,AC CORD E<EXCEPT U> |
| | 23 | 87-085-189-019 | | BUSHING,CORD U<U> |
| ⚠ | 24 | 87-050-100-019 | | AC CORD ASSY K3P<K> |
| ⚠ | 24 | 87-050-053-019 | | AC CORD ASSY,U-2<U> |
| ⚠ | 24 | 87-050-079-019 | | AC-CORD ASSY,E<EXCEPT K,U> |
| | 25 | 89-VT5-202-010 | | BUSHING CORD |
| | 26 | 82-NT3-631-119 | | CORD FG 15P |
| | 27 | 83-NF5-202-019 | | GUIDE,FL |
| ⚠ | 28 | 87-099-811-018 | | PLUG,ADPTR CONV(K)<HK> |
| | A | 87-067-703-019 | | BVT2+3-10 (W/0 SLOT) |
| | B | 87-591-094-419 | | QIT + 3 - 6 GOLD |
| | C | 87-067-688-019 | | BVTT +3-6 |
| | D | 87-067-633-019 | | BVT2+3-8 W/CONVEX |
| | E | 87-067-581-019 | | BVT2+3-15 W/O SLOT |
| | F | 87-067-673-019 | | BVTT +3-8 BLK |
| | G | 87-067-975-019 | | S-SCREW IT+4-8<HE,HK,HR,LH> |
| | G | 87-078-019-019 | | S-SCREW,IT+4-6<656REZ,K,EE,U,EZ> |
| | H | 87-067-641-019 | | UTT2+3-8 W/O SLOT BLK |
| | I | 87-067-585-019 | | BVTT +4-6 |
| | J | 87-078-084-019 | | BVTT+3-6 W,CONVEX |
| | K | 87-067-747-019 | | W,4.3-14-1<HE,HK,HR,LH> |

## MODEL NO.

# FD-N757

## ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| IC | | | |
| | 87-020-454-010 | | IC,DM6851 |
| | 87-020-758-019 | | IC,NJM2068SD |
| | 87-001-607-089 | | IC,NJM4558M |
| | 87-001-874-019 | | IC,HA12134A |
| | 87-017-916-019 | | IC,BU4066BC |
| | 85-NV3-610-010 | | IC,LC865008B-5803 |
| TRANSISTOR | | | |
| | 87-026-463-080 | | TR,2SA933S(RS) |
| | 87-026-211-089 | | C-TR,DTA144EK T147 |
| | 87-026-210-089 | | C-TR,DTC144EK T147 |
| | 89-503-655-689 | | FET,2SK365GR BL |
| | 89-327-125-089 | | C-TR,2SC2712GR |
| | 89-111-625-089 | | C-TR,2SA1162GR |
| | 89-333-317-089 | | TR,2SC3331T |
| | 89-318-155-089 | | TR,2SC1815GR |
| | 89-109-521-089 | | TR,2SA952K |
| | 89-332-665-089 | | TR,2SC3266GR |
| | 87-026-230-089 | | C-TR,DTA114YK |
| | 87-026-213-089 | | C-TR,DTC114YK |
| DIODE | | | |
| | 87-020-465-089 | | DIODE,ISS133 |
| | 87-020-125-089 | | C-DIODE,1SS181 |
| | 87-001-290-089 | | ZENER,HZS6B1L |
| | 87-017-150-089 | | ZENER,HZS6A3L |
| MAIN C.B | | | |
| C101 | 87-012-156-089 | | C-CAP,S 220P-50 CH |
| C102 | 87-012-156-089 | | C-CAP,S 220P-50 CH |
| C103 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C104 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C105 | 87-010-426-089 | | C-CAP,S 0.012-25 B |
| C106 | 87-010-426-089 | | C-CAP,S 0.012-25 B |
| C107 | 87-010-189-089 | | C-CAP,S 8200P-50 B |
| C108 | 87-010-189-089 | | C-CAP,S 8200P-50 B |
| C109 | 87-010-198-089 | | C-CAP,S 0.022-25 B |
| C201 | 87-012-154-089 | | C-CAP,S 150P-50 CH |
| C202 | 87-012-154-089 | | C-CAP,S 150P-50 CH |
| C203 | 87-012-145-089 | | C-CAP,S 270P-50CH |
| C204 | 87-012-145-089 | | C-CAP,S 270P-50CH |
| C205 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C206 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C207 | 87-010-213-089 | | C-CAP,S 0.015-50 B |
| C208 | 87-010-213-089 | | C-CAP,S 0.015-50 B |
| C209 | 87-010-189-089 | | C-CAP,S 8200P-50 B |
| C210 | 87-010-189-089 | | C-CAP,S 8200P-50 B |
| C211 | 87-012-156-089 | | C-CAP,S 220P-50 CH |
| C212 | 87-012-156-089 | | C-CAP,S 220P-50 CH |
| C301 | 87-012-154-089 | | C-CAP,S 150P-50 CH |
| C302 | 87-012-154-089 | | C-CAP,S 150P-50 CH |
| C303 | 87-010-402-089 | | CAP,E 2.2-50 SME |
| C304 | 87-010-402-089 | | CAP,E 2.2-50 SME |
| C305 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C306 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C307 | 87-010-181-089 | | C-CAP,S 1800P-50 B |
| C308 | 87-010-181-089 | | C-CAP,S 1800P-50 B |
| C309 | 87-010-186-089 | | C-CAP,S 4700P-50 B |
| C310 | 87-010-186-089 | | C-CAP,S 4700P-50 B |
| C311 | 87-010-177-089 | | C-CAP,S 820P-50 SL |

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| C312 | 87-010-177-089 | | C-CAP,S 820P-50 SL |
| C313 | 87-010-401-089 | | CAP,E 1-50 SME |
| C314 | 87-010-401-089 | | CAP,E 1-50 SME |
| C401 | 87-012-156-089 | | C-CAP,S 220P-50 CH |
| C402 | 87-012-156-089 | | C-CAP,S 220P-50 CH |
| C403 | 87-010-178-089 | | C-CAP,S 1000P-50 B |
| C405 | 87-010-260-089 | | CAP,E 47-25 SME |
| C406 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C407 | 87-010-183-089 | | C-CAP,S 2700P-50 B |
| C408 | 87-010-183-089 | | C-CAP,S 2700P-50 B |
| C409 | 87-010-183-089 | | C-CAP,S 2700P-50 B |
| C410 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C411 | 87-010-198-089 | | C-CAP,S 0.022-25 B |
| C501 | 87-012-142-089 | | C-CAP,S 0.33-16 F |
| C502 | 87-012-142-089 | | C-CAP,S 0.33-16 F |
| C503 | 87-010-178-089 | | C-CAP,S 1000P-50 B |
| C504 | 87-010-178-089 | | C-CAP,S 1000P-50 B |
| C505 | 87-012-155-089 | | C-CAP,S 180P-50 CH |
| C506 | 87-012-155-089 | | C-CAP,S 180P-50 CH |
| C507 | 87-010-401-089 | | CAP,E 1-50 SME |
| C508 | 87-010-401-089 | | CAP,E 1-50 SME |
| C509 | 87-010-545-089 | | CAP,E 0.22-50 SME |
| C510 | 87-010-545-089 | | CAP,E 0.22-50 SME |
| C511 | 87-010-371-089 | | CAP,E 470-6.3 |
| C512 | 87-015-819-089 | | CHIP CAP 0.01 |
| C513 | 87-010-318-089 | | C-CAP,S 47P-50 CH |
| C514 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C515 | 87-010-400-089 | | CAP,E 0.47-50 SME |
| C516 | 87-010-405-089 | | CAP,E 10-50 SME |
| C519 | 87-010-401-089 | | CAP,E 1-50 SME |
| C520 | 87-010-401-089 | | CAP,E 1-50 SME |
| C521 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C522 | 87-010-184-089 | | C-CAP,S 3300P-50 B |
| C601 | 87-010-235-089 | | CAP,E 470-16 SME |
| C602 | 87-010-381-089 | | CAP,E 330-16 SME |
| C603 | 87-010-101-089 | | CAP,E 220-16 SME |
| C604 | 87-010-980-089 | | CAP,E 330-16 FS |
| C605 | 87-010-263-089 | | CAP,E 100-10 SME 5X11 |
| C606 | 87-018-134-089 | | CAP,TC-U 0.01-16 Y |
| C901 | 87-010-197-089 | | C-CAP,S 0.01-25 B |
| C902 | 87-010-402-089 | | CAP,E 2.2-50 SME |
| C903 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C905 | 87-010-186-089 | | C-CAP,S 4700P-50 B |
| C906 | 87-010-186-089 | | C-CAP,S 4700P-50 B |
| C907 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C908 | 87-010-196-089 | | C-CAP,S 0.1-25 F |
| C950 | 87-018-209-089 | | CAP,TC-U 0.1-50 F |
| C951 | 87-018-209-089 | | CAP,TC-U 0.1-50 F<YU> |
| CON907 | 82-NV3-624-019 | | CONN ASSY,7P MECHA 1 |
| CON908 | 82-NV3-625-019 | | CONN ASSY,10P MECHA2 |
| EMI601 | 87-008-372-089 | | FLTR,EMI BL 01RN1 |
| EMI604 | 87-008-372-089 | | FLTR,EMI BL 01RN1 |
| EMI605 | 87-008-372-089 | | FLTR,EMI BL 01RN1 |
| FC1 | 82-NV3-629-019 | | CABLE FFC,4P-1.25 |
| FC2 | 83-NV4-618-019 | | CABLE FFC,6P-1.25 |
| FC3 | 83-NV4-617-019 | | CABLE FFC,13P-1.25-R |
| FC4 | 82-NV3-626-019 | | CABLE FFC,6P-1.25 |
| L301 | 87-005-525-089 | | COIL,22MH-J |
| L302 | 87-005-525-089 | | COIL,22MH-J |
| L303 | 87-005-580-089 | | COIL,10MHJ |
| L304 | 87-005-580-089 | | COIL,10MHJ |
| L401 | 82-NV3-610-019 | | COIL,OSC BIAS 85K |
| L402 | 87-005-126-089 | | COIL,1MH |
| R727 | 87-022-394-089 | | RES,NF 0.47-1/4W |
| SFR101 | 87-024-168-089 | | SFR,1K DIA6 V |

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| SFR102 | 87-024-168-089 | | SFR,1K DIA6 V |
| SFR201 | 87-024-168-089 | | SFR,1K DIA6 V |
| SFR202 | 87-024-168-089 | | SFR,1K DIA6 V |
| SFR301 | 87-024-171-089 | | SFR,4.7K DIA6 V |
| SFR302 | 87-024-171-089 | | SFR,4.7K DIA6 V |
| SFR401 | 87-024-175-089 | | SFR,47K DIA6 V |
| SFR402 | 87-024-175-089 | | SFR,47K DIA6 V |
| X901 | 87-030-264-089 | | CERA LOCK(MU)12.0MHZ |

FRONT A C.B

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| LED801 | 87-017-972-080 | | LED,SEL 2515C TP2 |
| LED803 | 87-017-973-080 | | LED,SEL 2515C TP3 |
| LED805 | 87-017-973-080 | | LED,SEL 2515C TP3 |
| S801 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S802 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S803 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S804 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S805 | 87-036-215-089 | | SW,TACT EVQ21404M |

FRONT B C.B

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| LED701 | 87-070-108-019 | | LED,SLF-301C-37 |
| LED702 | 87-070-108-019 | | LED,SLF-301C-37 |
| S806 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S807 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S808 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S809 | 87-036-215-089 | | SW,TACT EVQ21404M |
| S810 | 87-036-215-089 | | SW,TACT EVQ21404M |

TAPE-1 C.B

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| SOL1 | 82-ZM1-618-310 | | SOL ASSY,27 |
| SW4 | 87-036-110-010 | | SW,PUSH SPPB 62 |
| SW5 | 87-036-110-010 | | SW,PUSH SPPB 62 |
| SW6 | 87-036-110-010 | | SW,PUSH SPPB 62 |

TAPE-2 C.B

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| SFR1 | 87-024-170-080 | | SFR,3.3K DIA6 V |
| SOL1 | 82-ZM1-618-310 | | SOL ASSY,27 |
| SW2 | 87-036-110-010 | | SW,PUSH SPPB 62 |
| SW3 | 87-036-110-010 | | SW,PUSH SPPB 62 |
| SW4 | 87-036-110-010 | | SW,PUSH SPPB 62 |
| SW5 | 87-036-110-010 | | SW,PUSH SPPB 62 |
| SW6 | 87-036-110-010 | | SW,PUSH SPPB 62 |

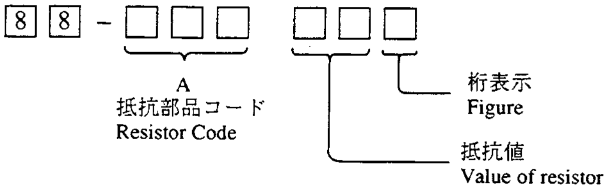
RELAY-1 C.B

RELAY-2 C.B

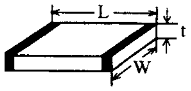
| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| CON201 | 82-NV3-623-019 | | CONN ASSY,6P HEAD 2 |

## ○ チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち
Chip Resistor Part Coading



チップ抵抗
Chip resistor

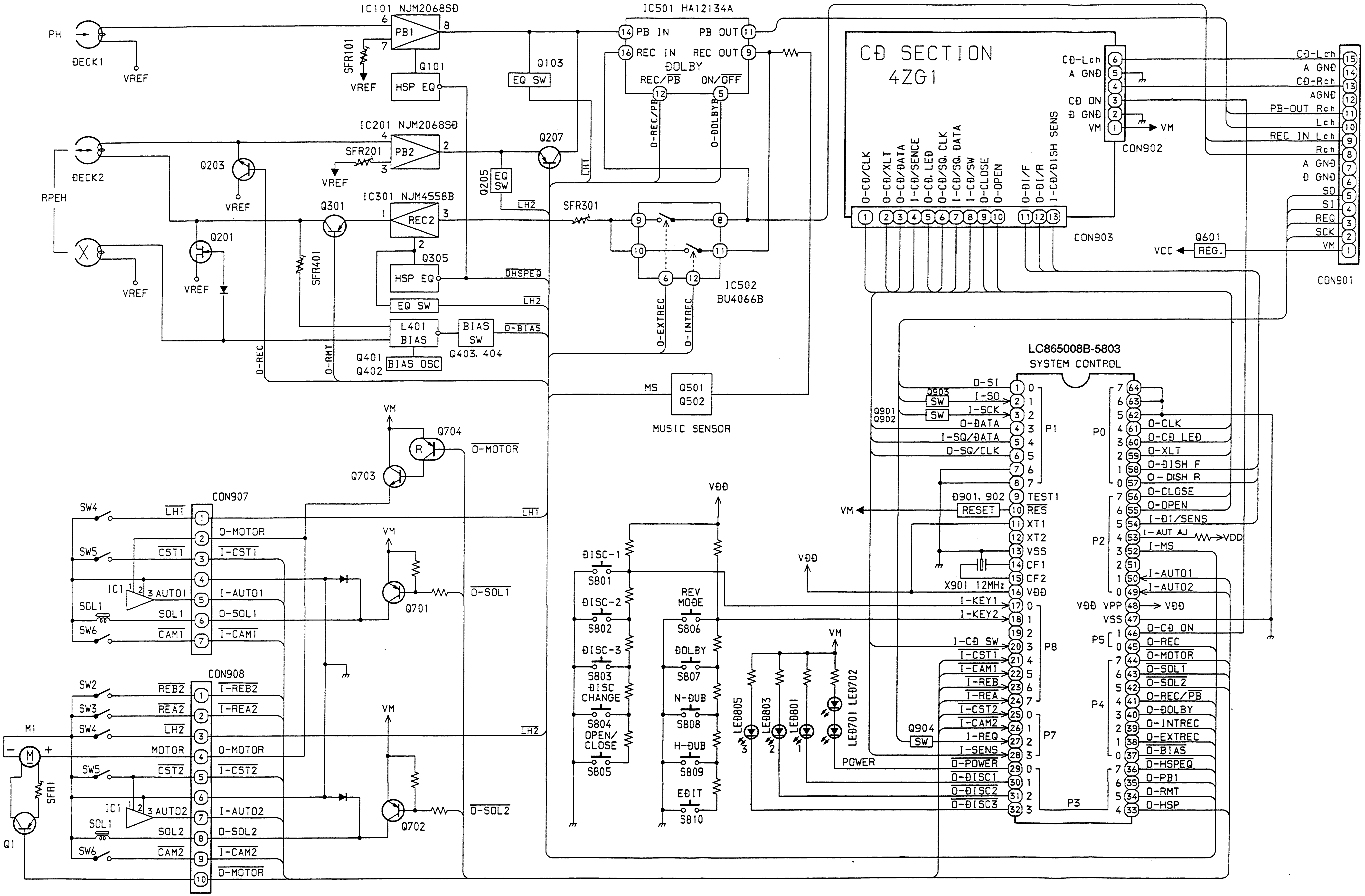
| Wattage<br>容量 | Type<br>種類 | Tolerance<br>許容誤差 | Symbol<br>記号 | Dimensions／寸法 (mm) | | | | Resistor Code: A<br>抵抗コード ：A |
|---|---|---|---|---|---|---|---|---|
| | | | | Form／外形 | L | W | t | |
| 1／32W | 1608 | ±5% | CJ |  | 1.6 | 0.8 | 0.35 | 108 |
| 1／10W | 2125 | ±5% | CJ | | 2 | 1.25 | 1.45 | 118 |
| 1／8W | 3216 | ±5% | CJ | | 3.2 | 1.6 | 0.5<br>～0.7 | 128 |

# IC DESCRIPTION

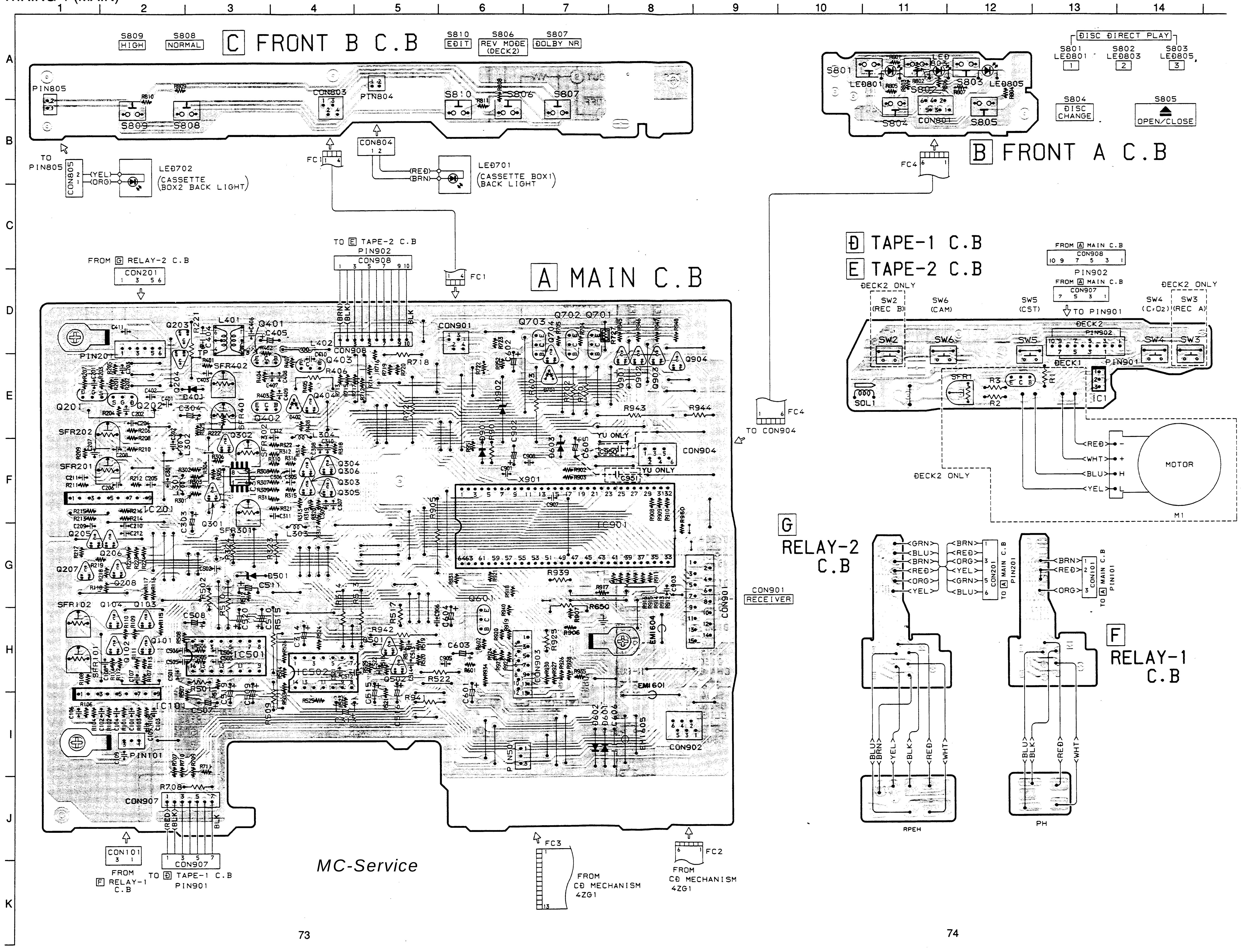
## IC, LC865008B-5582

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | O-SI | O | Serial data output. |
| 2 | I-SO | I | Serial data input. |
| 3 | I-SCK | I | Serial clock input. |
| 4 | O-DATA | O | Serial data output. |
| 5 | I-SQ/DATA | I | Sub-code input from CD. |
| 6 | O-SQ/CLK | O | Clock output for CD subcode input. |
| 7 | — | — | Not used. (Connected to GND) |
| 8 | — | — | Not used. (Connected to GND) |
| 9 | TEST1 | — | Not used. |
| 10 | $\overline{\text{RES}}$ | I | Reset input. |
| 11 | XT1 | — | Connected to +5.6V. |
| 12 | XT2 | — | Not used. |
| 13 | VSS | — | Connected to GND. |
| 14 | CF1 | I | Input pin for ceramic oscillator. |
| 15 | CF2 | O | Output pin for ceramic oscillator. |
| 16 | VDD | — | Connected to +5.6V. |
| 17 | I-KEY1 | I | Key data is input in the form of A/D level. |
| 18 | I-KEY2 | I | Key data is input in the form of A/D level. |
| 19 | — | — | Not used. (No connection) |
| 20 | I-CDSW | I | CD tray condition is input in the form of A/D level. |
| 21 | I-$\overline{\text{SW CST1}}$ | I | Input from DECK-1 tape detector. |
| 22 | I-$\overline{\text{SW CAM1}}$ | I | Input from DECK-1 cam switch detector. |
| 23 | I-$\overline{\text{SW REB}}$ | I | Input from B side record safety claw detector. |
| 24 | I-$\overline{\text{SW REA}}$ | I | Input from A side record safety claw detector. |
| 25 | I-$\overline{\text{SW CST2}}$ | I | Input from DECK-2 tape detector. |
| 26 | I-$\overline{\text{SW CAM2}}$ | I | Input from DECK-2 cam switch detector. |
| 27 | I-REQ | I | Data request input. |
| 28 | I-SENS | I | Control sense input. |
| 29 | O-$\overline{\text{POWER}}$ | O | System power supply $\overline{\text{ON}}$/OFF output. |
| 30 | O-$\overline{\text{DISC1}}$ | O | Output to illuminate "1" button. |
| 31 | O-$\overline{\text{DISC2}}$ | O | Output to illuminate "2" button. |
| 32 | O-$\overline{\text{DISC3}}$ | O | Output to illuminate "3" button. |
| 33 | O-HSP | O | High speed output to deck motor. |
| 34 | O-RMT | O | Muting output to record amplifier. |
| 35 | O-PB1 | O | Selection between DECK-1 and DECK-2. |
| 36 | O-$\overline{\text{HSPEQ}}$ | O | Equalizer selection during high speed dubbing. |
| 37 | O-$\overline{\text{BIAS}}$ | O | Output to bias switch. |
| 38 | O-EXTREC | O | Mixing recording (except synchro dubbing) ON/$\overline{\text{OFF}}$ output from tape to tape. |
| 39 | O-INTREC | O | Recording ON/$\overline{\text{OFF}}$ output except mixing dubbing. |
| 40 | O-DOLBY | O | Dolby selection (ON/OFF) output to Dolby IC |
| 41 | O-REC/$\overline{\text{PB}}$ | O | Output to Dolby IC for its input selection(REC/PB). |
| 42 | O-$\overline{\text{SOL2}}$ | O | Solenoid output to DECK-2 |
| 43 | O-$\overline{\text{SOL1}}$ | O | Solenoid output to DECK-1 |
| 44 | O-$\overline{\text{MOTOR}}$ | O | DECK motor output |
| 45 | O-REC | O | Output for shorting DECK-2 playback amplifier input during record. |
| 46 | O-CDON | O | Output to select power (ON/OFF) of CD circuit |
| 47 | VSS | — | Connected GND |
| 48 | VDD•VPP | — | Connected to +5.6V |
| 49 | I-AUTO2 | I | Input from Hall IC detector of DECK-2 |
| 50 | I-AUTO1 | I | Input from Hall IC detector of DECK-1 |
| 51 | O-PAL/$\overline{\text{NTSC}}$ | O | PAL/NTSC selection of CDG |
| 52 | I-MS | I | Input from music search detector |
| 53 | I-AUT AJ | I | CD automatic adj. sw sensor input. |
| 54 | I-DI SENSE | I | CD turn table photo sensor input. (Connected to VDD.) |
| 55 | O-OPEN | O | CD tray OPEN output |
| 56 | O-CLOSE | O | CD tray CLOSE output |
| 57 | O-DISHR | O | CD turntable reverse rotation output |
| 58 | O-DISHF | O | CD turntable forward rotation output |
| 59 | O-XLT | O | Control data latch output. |
| 60 | O-CD LED | O | CD flash window LED ON/$\overline{\text{OFF}}$ output. |
| 61 | O-CD CLK | O | Control data transfer clock output. |
| 62 | — | — | Not used (Connected GND) |
| 63 | — | — | Not used (Connected GND) |
| 64 | — | — | Not used (Connected GND) |

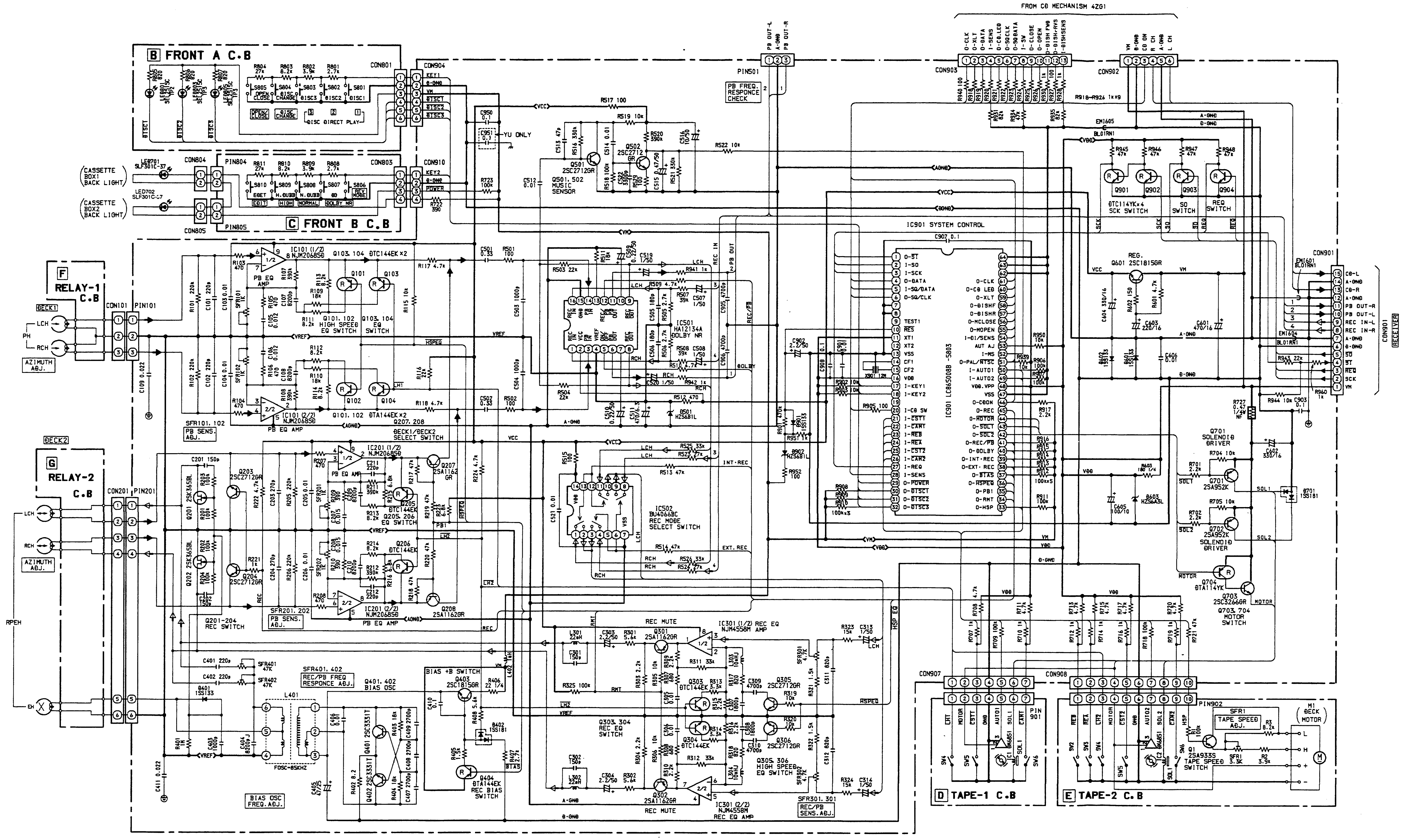
## BLOCK DIAGRAM-1


PH
DECK1
VREF
IC101 NJM2068SD
PB1
SFR101
Q101
HSP EQ
Q103
EQ SW
IC501 HA12134A
PB IN
PB OUT
REC IN
REC OUT
DOLBY
REC/PB
ON/OFF
O-REC/PB
O-DOLBYB
CD SECTION
4ZG1
CD-Lch
A GND
CD ON
D GND
VM
CON902
CD-Lch
A GND
CD-Rch
AGND
PB-OUT Rch
Lch
REC IN Lch
Rch
A GND
D GND
SO
SI
REQ
SCK
VM
TO RECEIVER
CON901
Q601
REG.
VCC
CON903
O-CD/CLK
O-CD/XLT
O-CD/DATA
I-CD/SENCE
O-CD LED
O-CD/SQ CLK
I-CD/SQ DATA
I-CD/SW
O-CLOSE
O-OPEN
O-DI/F
O-DI/R
I-CD/DISH SENS
IC201 NJM2068SD
PB2
SFR201
Q207
DECK2
Q203
RPEH
Q205
EQ SW
LHT
LH2
IC301 NJM4558B
REC2
Q301
SFR301
Q201
SFR401
Q305
HSP EQ
OHSPEQ
EQ SW
LH2
L401
BIAS
BIAS SW
O-BIAS
Q403, 404
Q401
Q402
BIAS OSC
O-REC
O-RMT
IC502
BU4066B
O-EXTREC
O-INTREC
MS
Q501
Q502
MUSIC SENSOR
LC865008B-5803
SYSTEM CONTROL
O-SI
I-SO
I-SCK
O-DATA
I-SQ/DATA
O-SQ/CLK
Q903
SW
Q901
Q902
P1
D901, 902
RESET
TEST1
RES
XT1
XT2
VSS
CF1
CF2
VDD
X901 12MHz
I-KEY1
I-KEY2
I-CD SW
I-CST1
I-CAM1
I-REB
I-REA
I-CST2
I-CAM2
I-REQ
I-SENS
O-POWER
O-DISC1
O-DISC2
O-DISC3
P8
P7
P3
Q904
POWER
P0
O-CLK
O-CD LED
O-XLT
O-DISH F
O - DISH R
O-CLOSE
O-OPEN
I-DI/SENS
I-AUT AJ
I-MS
I-AUTO1
I-AUTO2
P2
VDD VPP
VSS
O-CD ON
O-REC
O-MOTOR
O-SOL1
O-SOL2
O-REC/PB
O-DOLBY
O-INTREC
O-EXTREC
O-BIAS
O-HSPEQ
O-PB1
O-RMT
O-HSP
P5
P4
VM
Q704
Q703
O-MOTOR
CON907
SW4
LH1
O-MOTOR
SW5
CST1
I-CST1
IC1
AUTO1
I-AUTO1
SOL1
O-SOL1
SW6
CAM1
I-CAM1
Q701
O-SOL1
CON908
SW2
REB2
I-REB2
SW3
REA2
I-REA2
M1
SW4
LH2
MOTOR
O-MOTOR
SFR1
SW5
CST2
I-CST2
IC1
AUTO2
I-AUTO2
SOL1
SOL2
O-SOL2
SW6
CAM2
I-CAM2
Q1
O-MOTOR
Q702
O-SOL2
VDD
DISC-1
S801
DISC-2
S802
DISC-3
S803
DISC CHANGE
S804
OPEN/CLOSE
S805
REV MODE
S806
DOLBY
S807
N-DUB
S808
H-DUB
S809
EDIT
S810
LED805
LED803
LED801
LED701 LED702

# WIRING-1 (MAIN)


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
K
C FRONT B C.B
S809 HIGH
S808 NORMAL
S810 EDIT
S806 REV MODE (DECK2)
S807 DOLBY NR
PIN805
CON803
PIN804
S809
S808
S810
S806
S807
TO PIN805
CON805
(YEL)
(ORG)
LED702 (CASSETTE BOX2 BACK LIGHT)
FC1
CON804 1 2
(RED)
(BRN)
LED701 (CASSETTE BOX1 BACK LIGHT)
DISC DIRECT PLAY
S801 LED801 1
S802 LED803 2
S803 LED805 3
S804 DISC CHANGE
S805 OPEN/CLOSE
S801
LED801
S802
S803
LED805
S804
CON801
S805
FC4
B FRONT A C.B
TO E TAPE-2 C.B
PIN902
CON908
FROM G RELAY-2 C.B
CON201 1 3 5 6
FC1
A MAIN C.B
D TAPE-1 C.B
E TAPE-2 C.B
FROM A MAIN C.B
CON908
10 9 7 5 3 1
PIN902
FROM A MAIN C.B
CON907
7 5 3 1
TO PIN901
DECK2 ONLY
SW2 (REC B)
SW6 (CAM)
SW5 (CST)
SW4 (CrO2)
SW3 (REC A)
DECK2 ONLY
DECK2
DECK1
PIN901
SFR1
R3
R1
R2
SOL1
IC1
MOTOR
M1
DECK2 ONLY
<RED>
<WHT>
<BLU>
<YEL>
FC4
TO CON904
PIN201
Q203
L401
Q401
L402
CON908
Q403
R718
CON901
Q703
Q702 Q701
Q904
SFR402
Q201
Q202
SFR202
SFR201
SFR401
Q402
Q302
SFR302
Q304
Q306
Q303
Q305
R943
R944
YU ONLY
C950
CON904
YU ONLY
C951
X901
IC201
Q301
SFR301
L303
IC901
Q205
Q206
Q207
Q208
D501
C511
R939
R650
SFR102 Q104 Q103
C508
Q601
R906
EM1604
Q101
Q102
SFR101
IC501
R942
C603
IC502
Q502
R522
CON903
EM1601
IC101
PIN101
C507
PIN501
CON902
CON901
R708
CON907
(RED)
(BLK)
BLK
CON901 RECEIVER
G RELAY-2 C.B
<GRN>
<BLU>
<BRN>
<RED>
<ORG>
<YEL>
<BRN>
<RED>
<ORG>
<YEL>
<GRN>
<BLU>
CON201
TO A MAIN C.B PIN201
<BRN>
<RED>
<ORG>
CON101
TO A MAIN C.B PIN101
F RELAY-1 C.B
BLU
BRN
YEL
BLK
RED
WHT
BLU
BLK
RED
WHT
RPEH
PH
CON101 3 1
FROM F RELAY-1 C.B
TO D TAPE-1 C.B PIN901
CON907 1 3 5 7
FC3
FROM CD MECHANISM 4ZG1
FC2
FROM CD MECHANISM 4ZG1

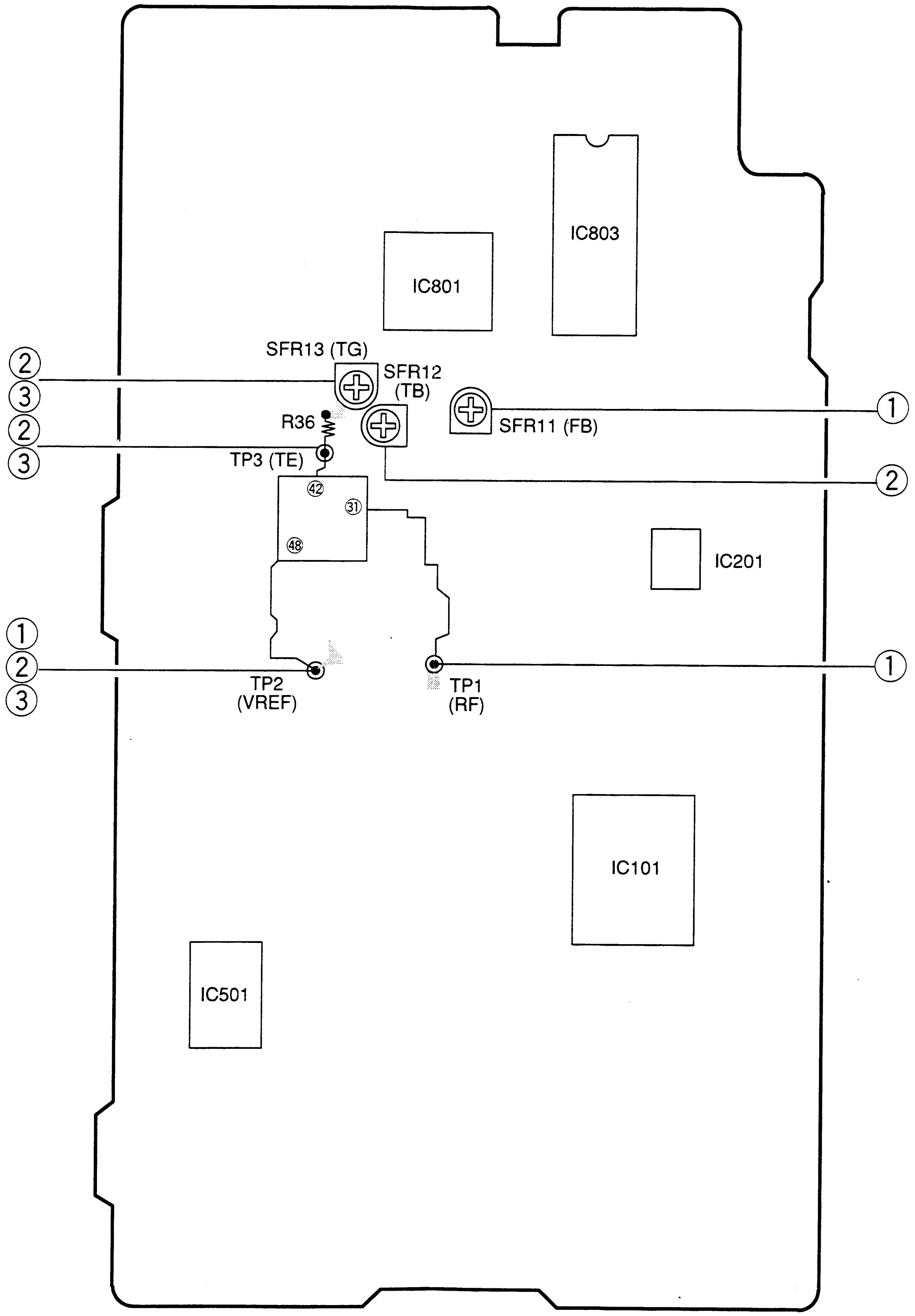
# SCHEMATIC DIAGRAM-1 (MAIN)


FROM CD MECHANISM 4ZG1
B FRONT A C.B
C FRONT B C.B
F RELAY-1 C.B
G RELAY-2 C.B
D TAPE-1 C.B
E TAPE-2 C.B
CASSETTE BOX1 BACK LIGHT
CASSETTE BOX2 BACK LIGHT
DECK1
DECK2
AZIMUTH ADJ.
PB FREQ. RESPONCE CHECK
YU ONLY
Q501, 502 MUSIC SENSOR
IC901 SYSTEM CONTROL
IC901 LC865008B-5803
IC101 (1/2) NJM2068SD
IC101 (2/2) NJM2068SD
PB EQ AMP
Q101, 102 HIGH SPEED EQ SWITCH
Q103, 104 EQ SWITCH
SFR101, 102 PB SENS. ADJ.
Q207, 208 DECK1/DECK2 SELECT SWITCH
IC201 (1/2) NJM2068SD
IC201 (2/2) NJM2068SD
Q205, 206 EQ SWITCH
Q201-204 REC SWITCH
SFR201, 202 PB SENS. ADJ.
IC501 HA12134A DOLBY NR
IC502 BU4066BC REC MODE SELECT SWITCH
SFR401, 402 REC/PB FREQ RESPONCE ADJ.
Q401, 402 BIAS OSC
BIAS +B SWITCH
Q404 DTA144EK REC BIAS SWITCH
BIAS OSC FREQ. ADJ.
REC MUTE
IC301 (1/2) REC EQ NJM4558M AMP
IC301 (2/2) NJM4558M REC EQ AMP
Q303, 304 REC EQ SWITCH
Q305, 306 HIGH SPEED EQ SWITCH
SFR301, 301 REC/PB SENS. ADJ.
Q901 Q902 Q903 Q904
DTC114YK×4 SCK SWITCH
SO SWITCH
REQ SWITCH
REG. Q601 2SC1815GR
Q701 SOLENOID DRIVER
Q702 2SA952K SOLENOID DRIVER
Q703, 704 MOTOR SWITCH
CON901 RECEIVER
SFR1 TAPE SPEED ADJ.
Q1 2SA933S TAPE SPEED SWITCH
M1 DECK MOTOR

# ELECTRICAL ADJUSTMENT

## (CD SECTION)

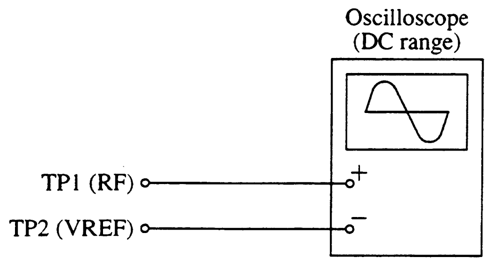
### A 3CD C.B


IC803
IC801
SFR13 (TG)
SFR12
(TB)
SFR11 (FB)
R36
TP3 (TE)
42
31
48
IC201
TP2
(VREF)
TP1
(RF)
IC101
IC501
②
③
②
③
①
②
③
①
②
①

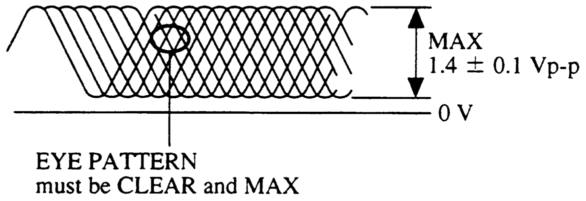
Note: Connect a probe (10: 1) of the oscilloscope or the frequency counter to a test point.

1. Focus Bias Adjustment

Make the focus bias adjustment when replacing and repairing the optical block.

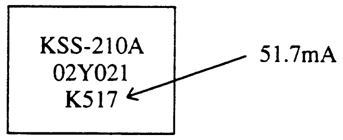

Oscilloscope
(DC range)
TP1 (RF)
TP2 (VREF)
+
−

1) Connect an oscilloscope to test points TP1 (RF) and TP2 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
4) Adjust SFR11 so that RF signal of test point TP1 (RF) is MAX and CLEARREST.


MAX
1.4 ± 0.1 Vp-p
0 V
EYE PATTERN
must be CLEAR and MAX

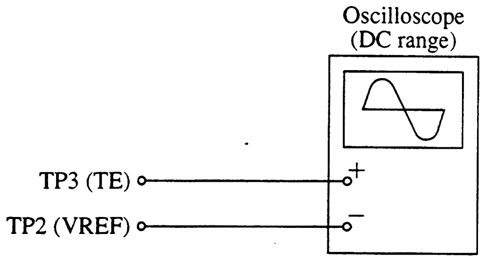
VOLT/DIV : 0.5 V
TIME/DIV : 1 μS

Note: The current of the laser signal can be checked with the voltages on both sides of R28 (10Ω). The difference for the specified value shown on the lavel must be within ± 6.0mA.

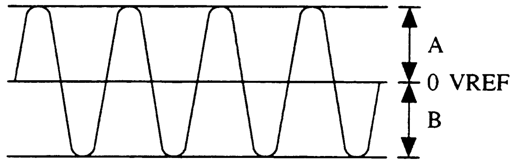

KSS-210A
02Y021
K517
51.7mA

$$\text{Laser current Iop} = \frac{\text{Voltage across R28}}{10\Omega}$$

2. Tracking Balance Adjustment


Oscilloscope
(DC range)
TP3 (TE)
TP2 (VREF)
+
−

1) Connect an oscilloscope to test points TP3 (TE) and TP2 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and press the PLAY button.
4) Connect the intermediate point of SFR13 to TP2 (VREF).
5) Adjust SFR12 so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.
6) After the adjustment is completed, remove the connected lead wires from the terminals.



A = B

VOLT/DIV : 200mV
TIME/DIV : 1mS

3. Tracking Gain Adjustment

A servo analyzer is necessary in order to perform this adjustment exactly. However, this gain has a margin, so even if it is slightly off, there is no problem. Therfore, do not perform this adjustment.
Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when 2-axis device operates. However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise increases when the 2-axis device operates.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.

When the gain adjustment is off, the symptoms below appear.

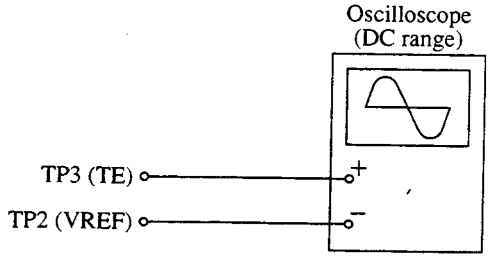
| Symptoms / Gain | (Focus) | Tracking |
|---|---|---|
| ● The time until music starts becomes longer for STOP→ ▶ PLAY or automatic selection (⏮, ⏭ buttons pressed.) (Normally takes about 2 seconds.) | low | low or high |
| ● Music does not start and disc continues to rotate for STOP →▶ PLAY or automatic selection (⏮, ⏭ buttons pressed.) | — | low |
| ● Disc stops to rotate shortly after STOP→▶ PLAY. | low or high | — |
| ● Sound is interrupted during PLAY. Or time counter display stops. | — | low |
| ● More noises during the 2-axis device operation. | high | high |

The following is simple adjustment method.

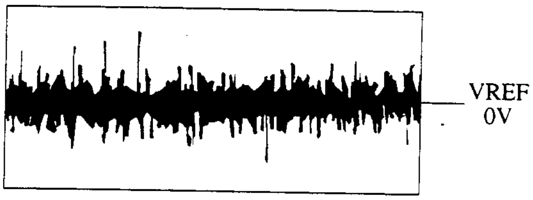
— Simple adjustment —

Note: Since the exact adjustment cannot be performed, remember the positions of the controls before the performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

Procedure:



1) Keep the set horizontal. (If the set is not kept horizontally, this adjustment cannot be performed due to the gravity against the 2-axis device.)
2) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
3) Connect an oscilloscope to TP3 (TE), TP2 (VREF) of the CD C.B.
4) Adjust SFR13 so that the waveform appears as shown in the figure below. (tracking gain adjustment)

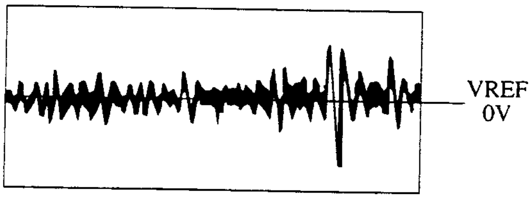


VOLT/DIV: 50 mV
TIME/DIV: 1 mS

- Incorrect example

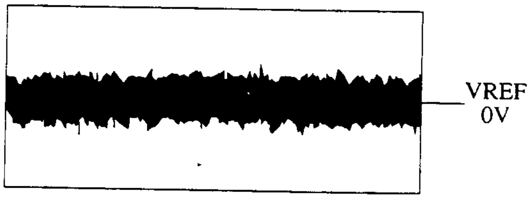
Low tracking gain

The fundamental wave appears as compared with the waveform adjusted.



VOLT/DIV: 50 mV
TIME/DIV: 1 mS

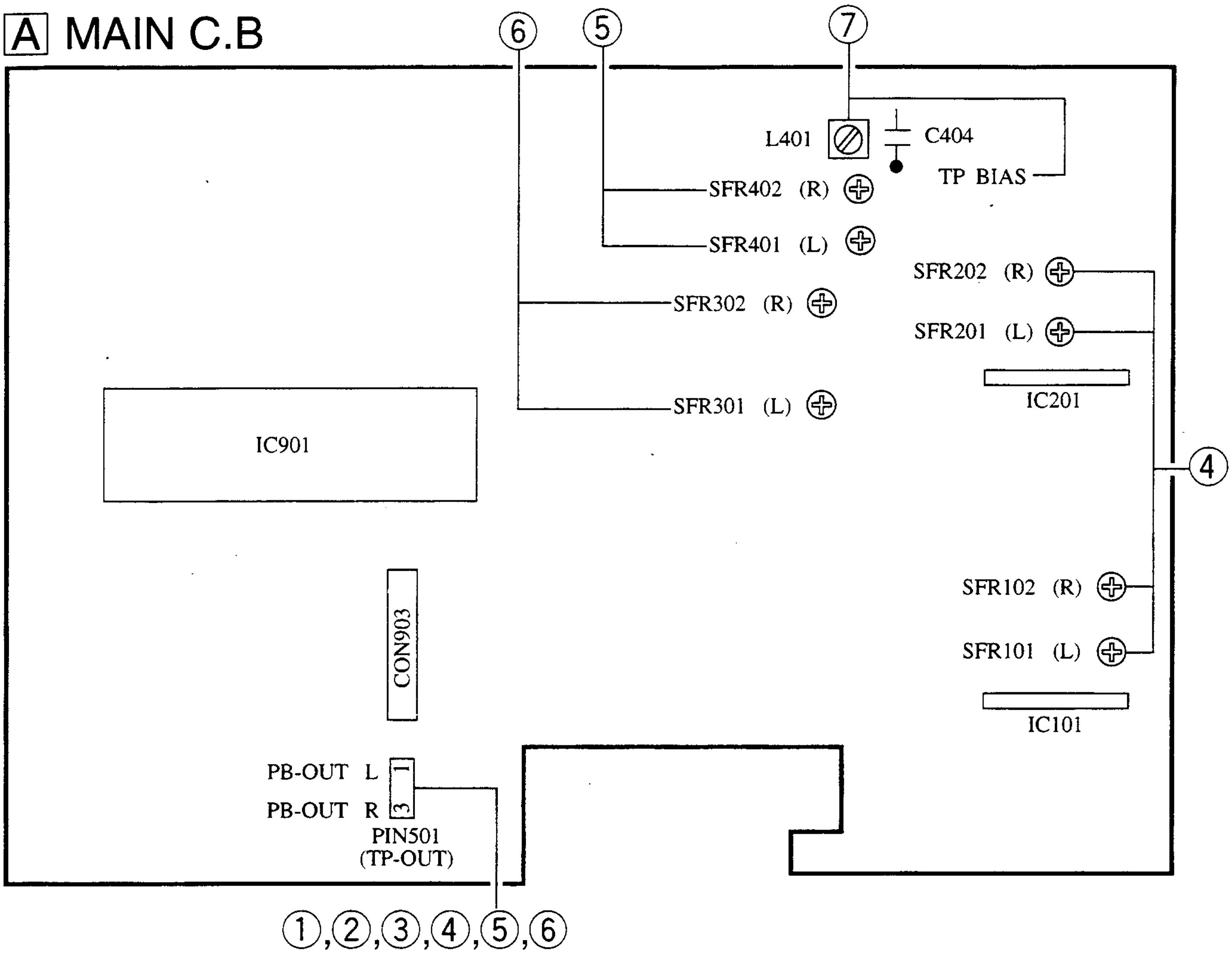
High tracking gain
The frequency of the fundamental wave is higher than that in low gain.



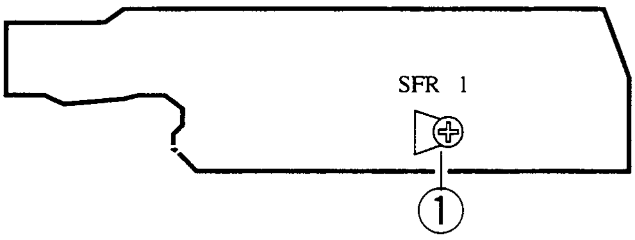
VOLT/DIV: 50 mV
TIME/DIV: 1 mS

(TAPE SECTION)

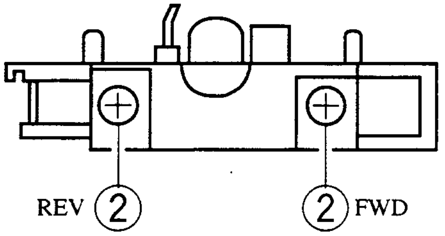
## A MAIN C.B


⑥
⑤
⑦
L401
C404
TP BIAS
SFR402 (R)
SFR401 (L)
SFR202 (R)
SFR201 (L)
SFR302 (R)
SFR301 (L)
IC201
IC901
④
SFR102 (R)
SFR101 (L)
CON903
IC101
PB-OUT L
PB-OUT R
1
3
PIN501
(TP-OUT)
①,②,③,④,⑤,⑥

## E TAPE-2 C.B



## DECK 1P, DECK 2R/P/E HEAD



1. Tape Speed Adjustment
   Settings: • Test tape: TTA-100
   • Test point: TP CONN 3P (PIN501) ①, ③
   • Adjustment location: SFR1
   Method: Play back the test tape by DECK Ⅱ and adjust SFR1 so that the frequency counter reads 3000Hz±5Hz.

2. Head Azimuth Adjustment
   Settings: • Test tape: TTA-310
   • Test point: TP CONN 3P (PIN501) ①, ③
   • Adjustment location: Head azimuth adjustment screw
   Method: Play back the 10kHz signal of the test tape and adjust screw so that the output becomes maximum. Next, perform on each FWD PLAY and REV PLAY mode.

3. PB Frequency Response Check
   Settings: • Test tape: TTA-310
   • Test point: TP CONN 3P (PIN501) ①, ③
   Method: Play back the 315Hz and 10kHz signals of the test tape and check that the output ratio of the 10kHz signal is with respect to that of the 315Hz signal is ±2dB.

4. PB Sensitivity Adjustment
   Settings: • Test tape: TTA-200
   • Test point: TP CONN 3P (PIN501) ①, ③ (load 47KΩ)
   • Adjustment location:
     ( Ⅰ DECK) SFR101 (L ch)
     SFR102 (R ch)
     ( Ⅱ DECK) SFR201 (L ch)
     SFR202 (R ch)

Method: Play back the test tape and adjust SFRs so that the output level of the test point Ⅰ DECK is 320mV, Ⅱ DECK 300mV.

5. REC/PB Frequency Response Adjustment

Settings:
- Test tape: TTA-601
- Test point: TP CONN 3P (PIN501) ①, ③
- Input signal: 1kHz/10kHz (VIDEO/AUX)
- Adjustment location: SFR401 (L ch)
  SFR402 (R ch)

Method: Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP CONN 3P (PIN501) ①, ③ is 21mV. Record and play back the 1kHz and 10kHz signals and adjust SFRs so that the output of the 10kHz signal is 0dB$\pm^{0}_{0.5}$dB with respect to that of the 1kHz signals.

6. REC/PB Sensitivity Adjustment

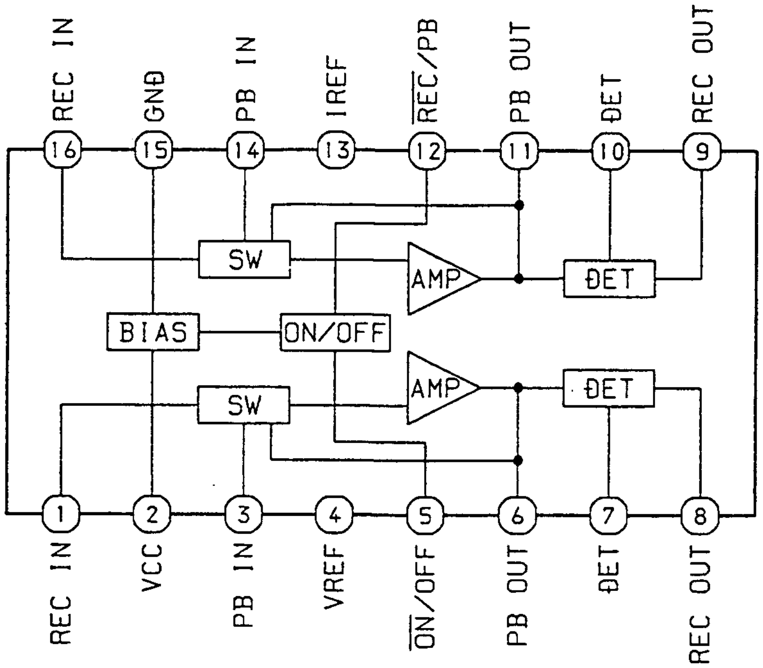
Settings:
- Test tape: TTA-601 (TTA-600)
- Test point: TP CONN 3P (PIN501) ①, ③
- Input signal: 1kHz (VIDEO/AUX)
- Adjustment location: SFR301 (L ch)
  SFR302 (R ch)

## PRACTICAL SERVICE FIGURE

| | |
|---|---|
| Tape speed: | 3000Hz±45Hz |
| Wow & flutter: | Less than 0.4% (R.M.S) |
| Take-up torque: | 30~55g-cm (FWD, REV) |
| F. F torque: | 75~180g-cm |
| Rew torque: | 75~180g-cm |
| Back tension: | 2~7g-cm |
| PB Output level: | 2.5±1.0dB (SP OUT) |
| REC/PB Output level: | 1.75±1.0dB (SP OUT) |
| Distortion (REC/PB): | Less than 2% (NORM, $CrO_2$) |
| Noise level (PB): | Less than 10mV/15mV<br>DOLBY B NR ON/OFF $CrO_2$)<br>Less than 15mV/25mV<br>DOLBY B NR ON/OFF<br>NORM) |
| Noise level (REC/PB): | Less than 10mV/15mV<br>DOLBY B NR ON/OFF $CrO_2$)<br>Less than 15mV/25mV<br>DOLBY B NR ON/OFF<br>NORM) |
| Erasing ratio: | More than 60dB |
| REC bias frequency: | 85kHz |
| Test tape: | NORMAL TTA-601<br>$CrO_2$ TTA-610 |

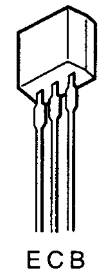
# IC BLOCK DIAGRAM

## IC, HA12134A

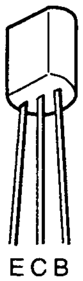


REC IN
GNĐ
PB IN
IREF
$\overline{REC}$/PB
PB OUT
ĐET
REC OUT
16
15
14
13
12
11
10
9
SW
AMP
ĐET
BIAS
ON/OFF
AMP
ĐET
SW
1
2
3
4
5
6
7
8
REC IN
VCC
PB IN
VREF
$\overline{ON}$/OFF
PB OUT
ĐET
REC OUT

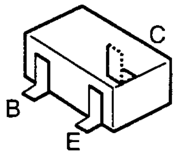
## TRANSISTOR ILLUSTRATION



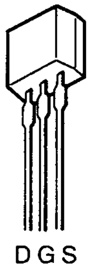
2SA933



2SA952
2SC1815
2SC3266
2SC3331

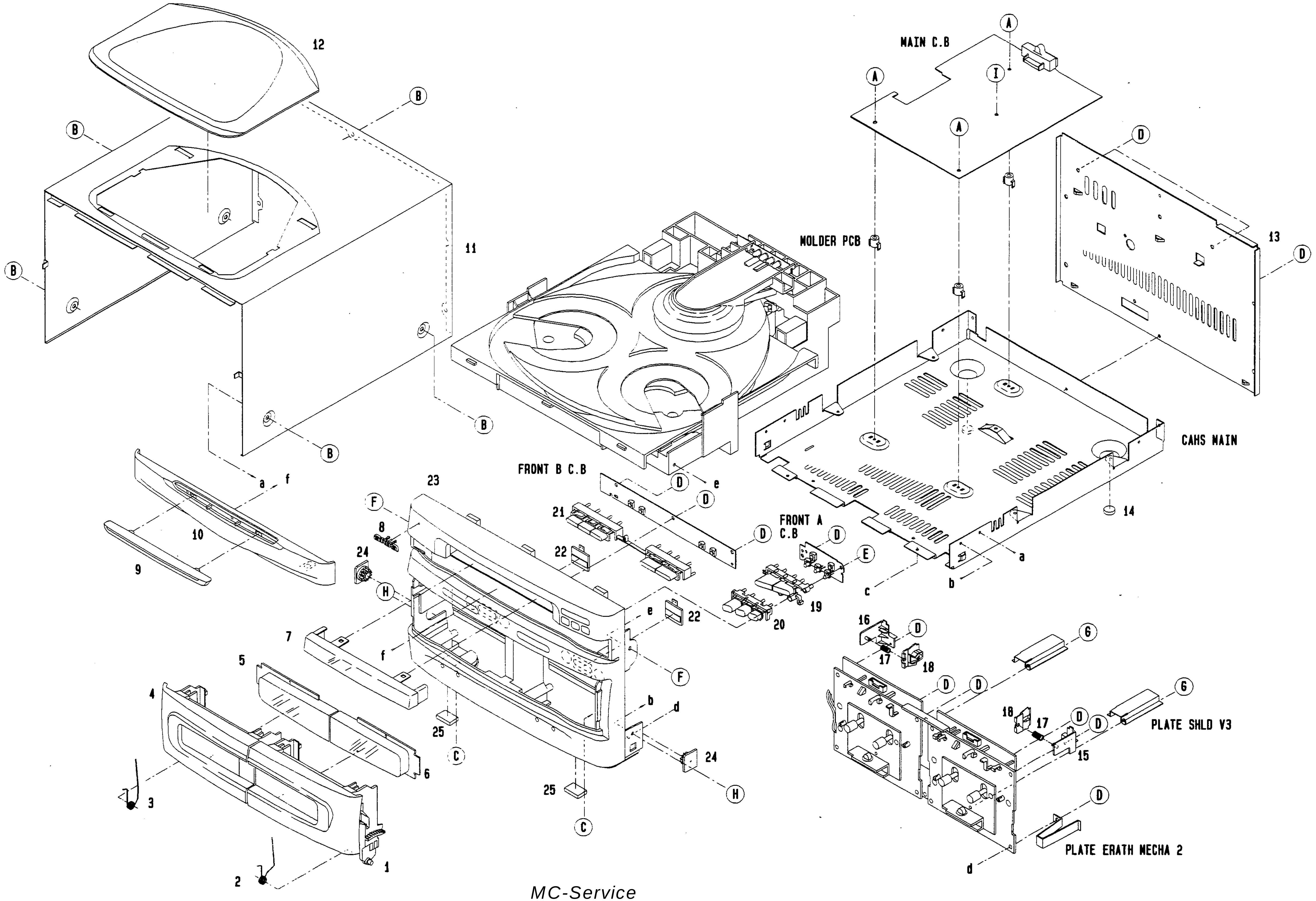


2SA1162
2SC2712
DTA114
DTA144
DTC114
DTC144



2SK365

# MECHANICAL EXPLODED VIEW 1 ／ 1

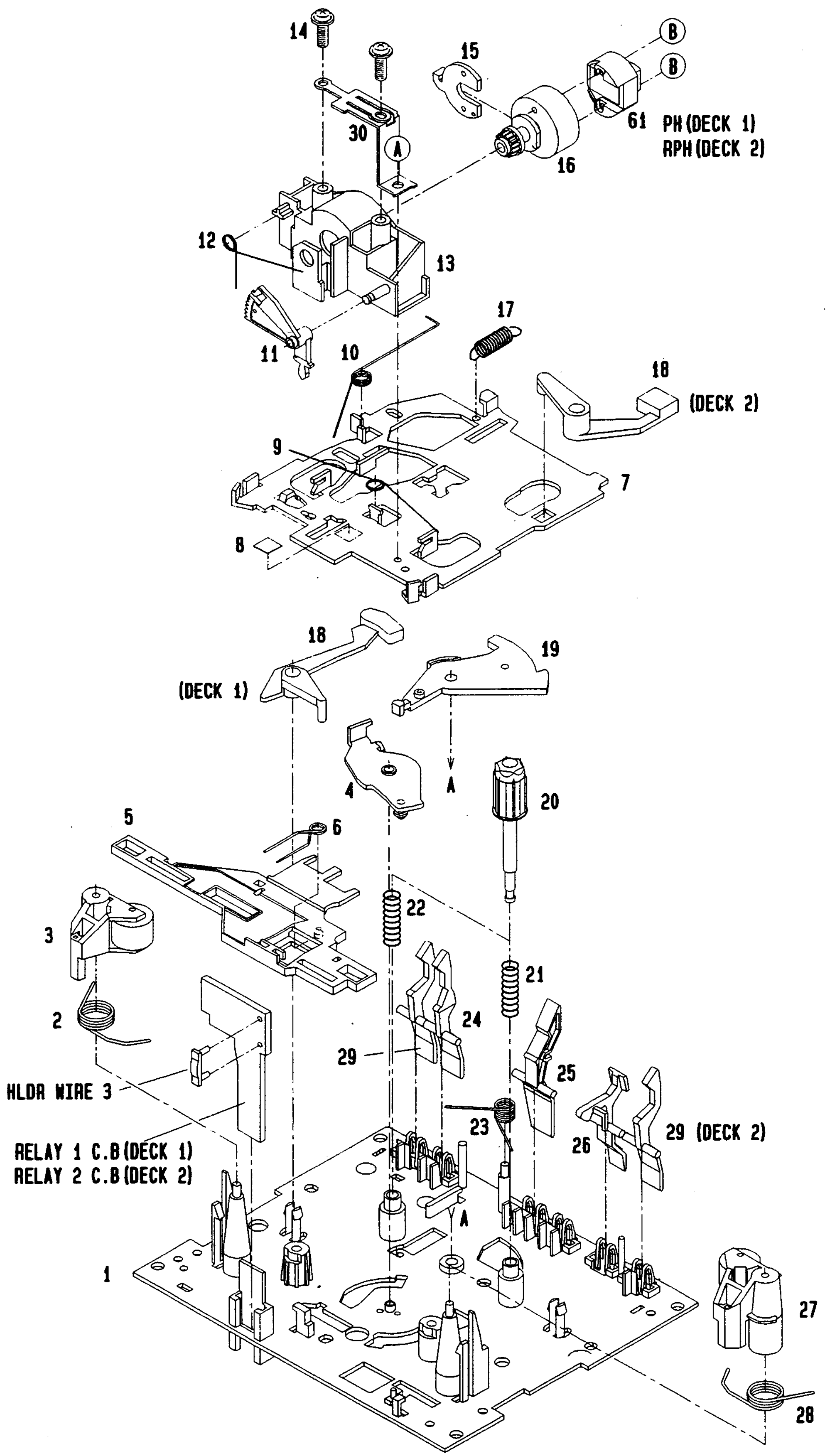

12
B
B
B
B
B
B
11
MAIN C.B
A
A
I
A
MOLDER PCB
D
13
D
CAHS MAIN
14
a
b
c
FRONT B C.B
D
D
D
e
FRONT A C.B
D
E
21
22
22
e
19
20
23
F
F
8
24
H
10
9
a
f
7
f
5
4
6
25
C
25
C
3
2
1
b
d
24
H
16
D
17
18
G
D
D
G
18
17
D
D
15
PLATE SHLD V3
D
PLATE ERATH MECHA 2
d

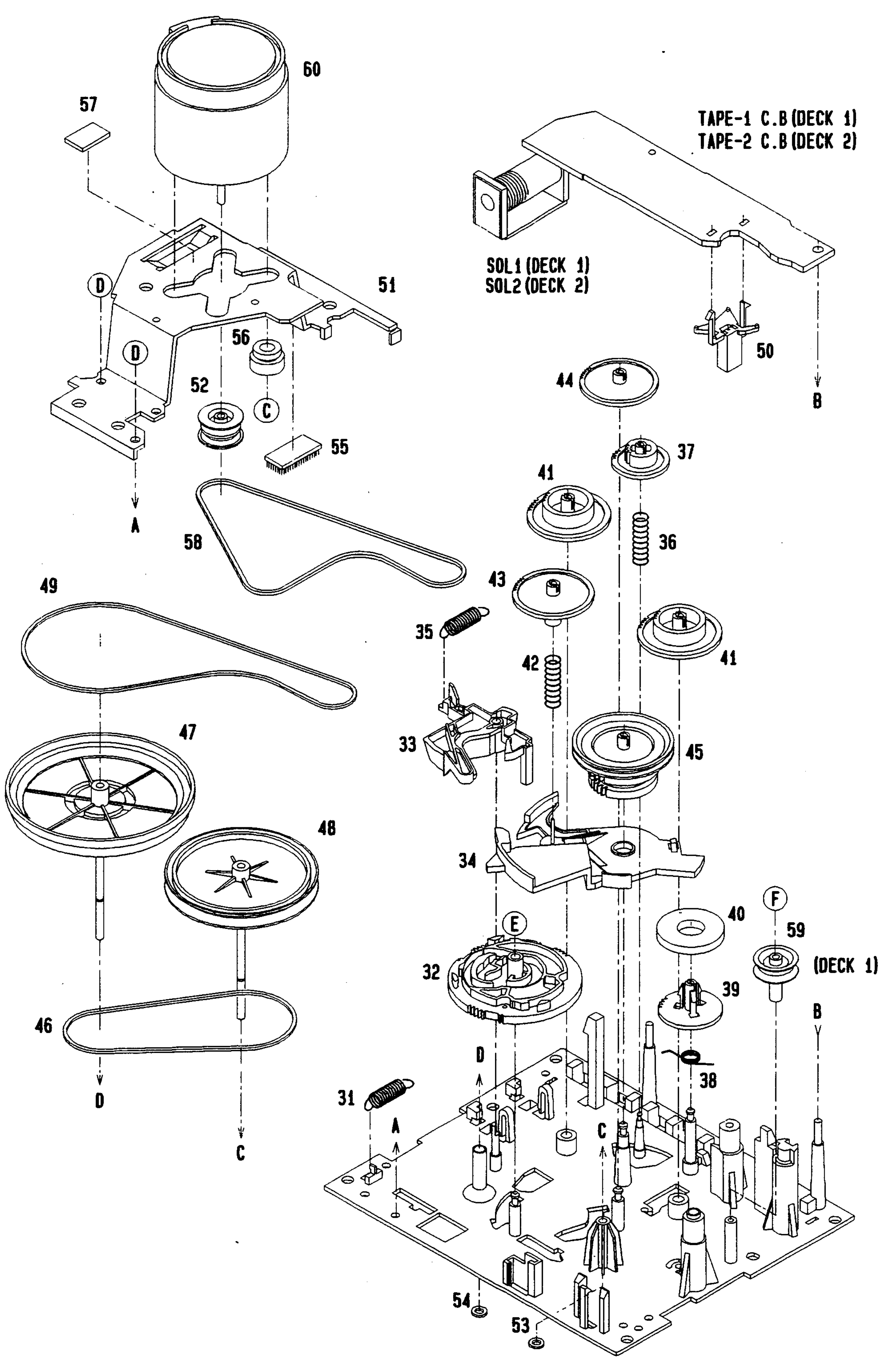
## MECHANICAL PARTS LIST 1／1

DESCRIPTIONで判断できない物は “REFERENCE NAME LIST” を参照してください。
If can’t understand for Description please kindly refer to “REFERENCE NAME LIST”.

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 83-NV4-014-019 | | WINDOW,BOX 2 |
| 2 | 83-NV4-202-119 | | SPR-T,EJECT 2 |
| 3 | 83-NV4-201-119 | | SPR-T,EJECT 1 |
| 4 | 83-NV4-013-019 | | WINDOW,BOX 1 |
| 5 | 85-NV3-003-019 | | BOX,CASS 1 |
| 6 | 85-NV3-004-019 | | BOX,CASS 2 |
| 7 | 85-NV3-006-019 | | WINDOW,CD |
| 8 | 82-NE8-032-019 | | BADGE AIWA 27.5 |
| 9 | 83-NV4-006-019 | | DUMMY,TRAY |
| 10 | 85-NV3-005-019 | | PANEL,TRAY |
| 11 | 83-NV4-011-119 | | CAB,STEEL |
| 12 | 83-NF5-021-019 | | WINDOW,TOP |
| 13 | 85-NV3-009-019 | | PANEL,REAR YBN<Y> |
| 13 | 85-NV3-008-019 | | PANEL,REAR YUBN<YU> |
| 14 | 82-NV1-213-019 | | FELT,DIA 12-2 |
| 15 | 82-NF5-227-019 | | HLDR,LOCK 2N |
| 16 | 82-NF5-226-019 | | HLDR,LOCK 1N |
| 17 | 82-NF5-228-019 | | SPR-C,LOCK |
| 18 | 82-NF5-229-019 | | PLATE,LOCK |
| 19 | 83-NV4-007-019 | | KEY,OPEN |
| 20 | 83-NV4-008-01K | | KEY,DISC |
| 21 | 83-NV4-009-019 | | KEY,DOLBY |
| 22 | 87-070-108-019 | | LED,SLF-301C-37 |
| 23 | 85-NV3-002-019 | | CAB,FR<Y> |
| 23 | 85-NV3-007-019 | | CAB,FR U<YU> |
| 24 | 87-063-165-019 | | OIL-DMPR 150 |
| 25 | 83-NV4-203-019 | | FELT,15.5-12.5-2HB |
| A | 87-067-632-019 | | BVT2+3-15 W CONVEX |
| B | 87-067-641-019 | | UTT2+3-8(W/O SLOT)BK |
| C | 87-067-673-019 | | BVTT+3-8 BLK |
| D | 87-067-703-019 | | BVT2+3-10(W/O SLOT) |
| E | 87-067-758-019 | | BVT2+3-12 W/O SLOT |
| F | 87-721-097-419 | | QT2+3-12 GLD |
| G | 87-571-032-419 | | VIT+2-3 |
| H | 87-591-094-419 | | QIT+3-6GLD |
| I | 87-067-579-019 | | BVT 2+3-8 W/O SLOT |

# TAPE MECHANISM EXPLODED VIEW 1 ／ 1


14
15
B
B
30
A
61
PH (DECK 1)
RPH (DECK 2)
16
12
13
11
10
17
18
(DECK 2)
9
7
8
18
(DECK 1)
19
4
A
20
5
6
3
22
21
2
24
29
25
HLDR WIRE 3
23
26
29 (DECK 2)
RELAY 1 C.B (DECK 1)
RELAY 2 C.B (DECK 2)
A
1
27
28

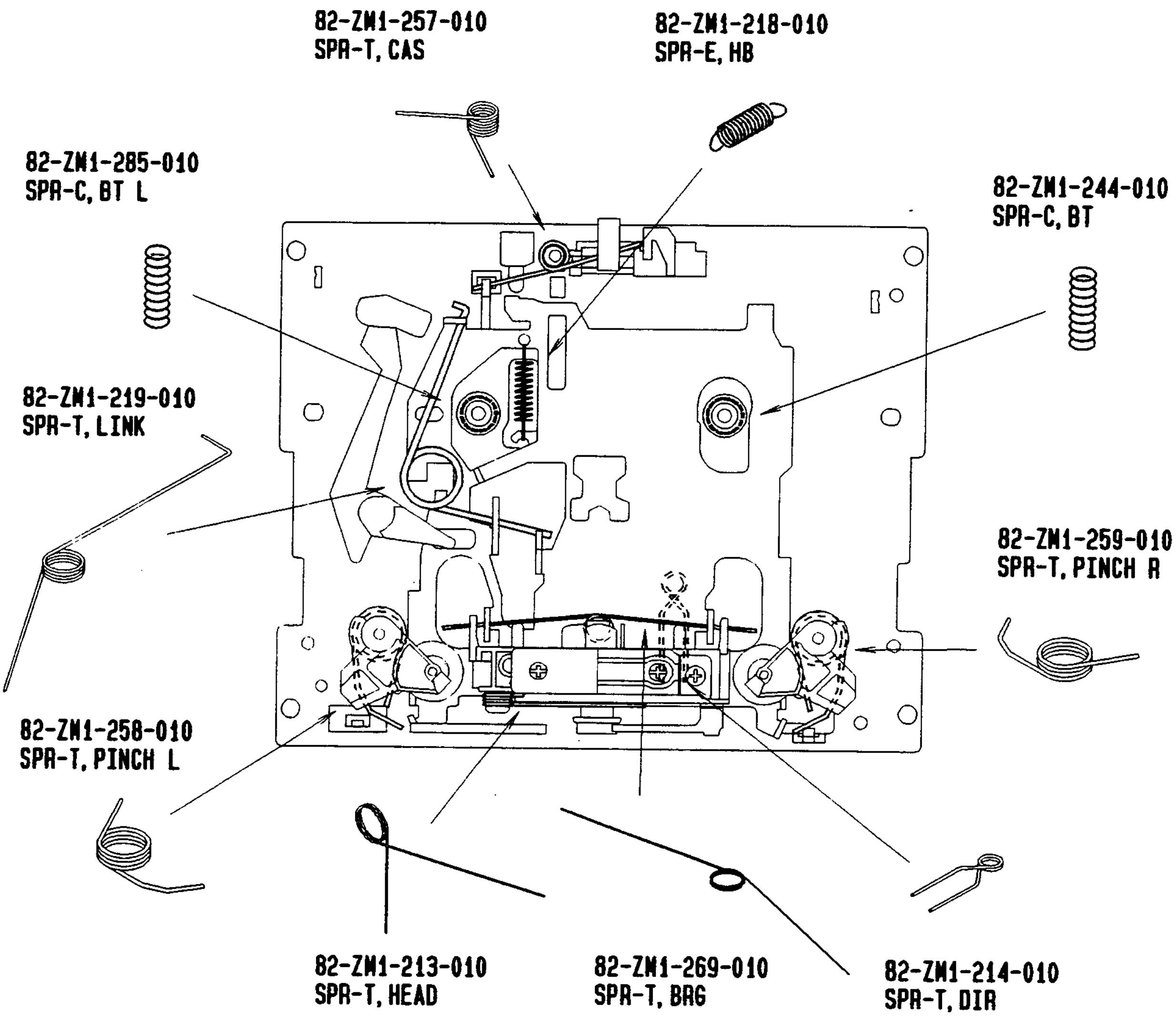

60
57
TAPE-1 C.B (DECK 1)
TAPE-2 C.B (DECK 2)
D
51
SOL1 (DECK 1)
SOL2 (DECK 2)
D
56
52
C
55
50
B
44
37
A
41
58
36
43
49
35
41
42
47
33
45
48
34
E
40
F
59
(DECK 1)
32
39
B
46
D
38
D
31
A
C
C
54
53

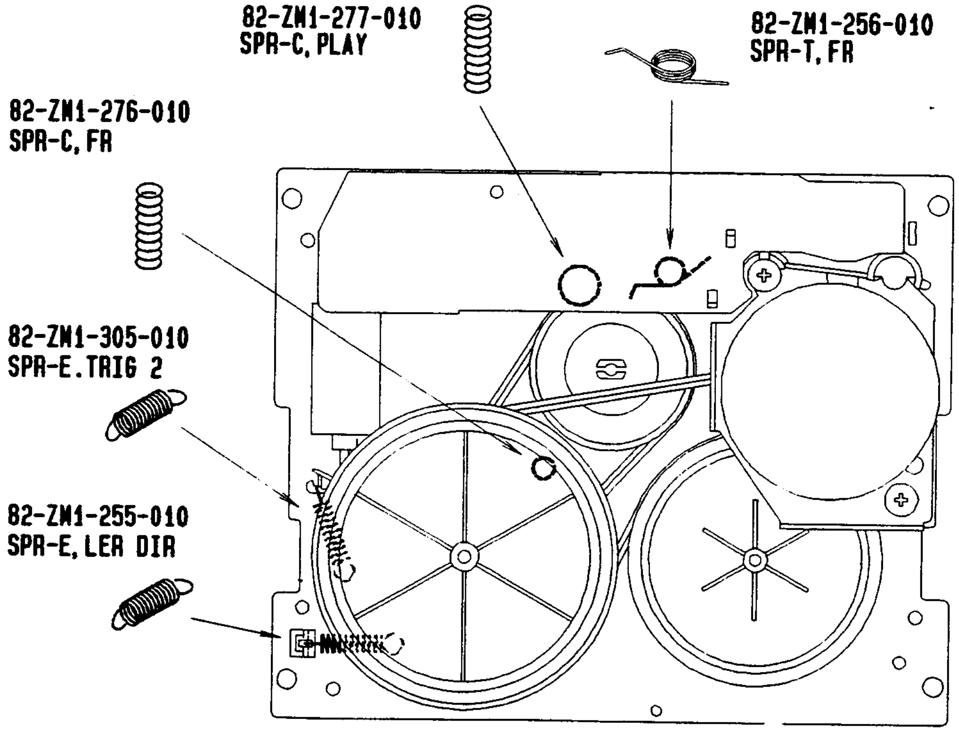
# TAPE MECHANISM PARTS LIST 1／1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 82-ZM3-214-110 | | CHAS ASSY,P (DECK 1) |
| 1 | 82-ZM1-299-010 | | CHAS ASSY,R (DECK 2) |
| 2 | 82-ZM1-258-010 | | SPR-T,PINCH L |
| 3 | 82-ZM1-248-110 | | LVR ASSY,PINCH L |
| 4 | 82-ZM1-295-210 | | PLATE ASSY,LINK |
| 5 | 82-ZM1-266-010 | | LVR,DIR |
| 6 | 82-ZM1-214-010 | | SPR-T,DIR |
| 7 | 82-ZM1-206-210 | | CHAS,HEAD |
| 8 | 87-078-014-010 | | SH,5-5-0.05 |
| 9 | 82-ZM1-269-010 | | SPR-T,BRG |
| 10 | 82-ZM1-219-010 | | SPR-T,LINK |
| 11 | 82-ZM1-210-010 | | GEAR,H T |
| 12 | 82-ZM1-213-010 | | SPR-T,HEAD |
| 13 | 82-ZM1-207-010 | | GUIDE,TAPE |
| 14 | 82-ZM1-283-210 | | S-SCREW,AZIMUTH |
| 15 | 82-ZM1-209-010 | | PLATE,HEAD |
| 16 | 82-ZM1-208-010 | | HLDR,HEAD |
| 17 | 82-ZM1-218-010 | | SPR-E,HB |
| 18 | 82-ZM1-263-110 | | LVR,EJECT L (DECK 1) |
| 18 | 82-ZM1-264-010 | | LVR,EJECT R (DECK 2) |
| 19 | 82-ZM1-222-010 | | LVR,PLAY |
| 20 | 82-ZM1-217-110 | | REEL TABLE |
| 21 | 82-ZM1-244-110 | | SPR-C,BT |
| 22 | 82-ZM1-285-110 | | SPR-C,BT L |
| 23 | 82-ZM1-257-010 | | SPR-T,CAS |
| 24 | 82-ZM1-241-110 | | LVR,MC |
| 25 | 82-ZM1-242-010 | | LVR,CAS |
| 26 | 82-ZM1-243-010 | | LVR,STOP |
| 27 | 82-ZM1-253-110 | | LVR ASSY,PINCH R |
| 28 | 82-ZM1-259-010 | | SPR-T,PINCH R |
| 29 | 82-ZM1-240-110 | | LVR,REC (DECK 2) |
| 30 | 82-ZM1-298-010 | | SPR-P,EARTH |
| 31 | 82-ZM1-255-110 | | SPR-E,LVR DIR |
| 32 | 82-ZM1-221-110 | | GEAR,CAM |
| 33 | 82-ZM1-227-110 | | LVR,TRIG |
| 34 | 82-ZM1-224-110 | | LVR,FR |
| 35 | 82-ZM1-305-010 | | SPR-E,TRIG 2 |
| 36 | 82-ZM1-277-010 | | SPR-C,PLAY |
| 37 | 82-ZM1-223-010 | | GEAR,PLAY |
| 38 | 82-ZM1-256-110 | | SPR-T,FR |
| 39 | 82-ZM1-220-210 | | GEAR,IDLER |
| 40 | 80-ZM6-217-010 | | RING MAGNET 2 |
| 41 | 82-ZM1-216-210 | | GEAR,REEL |
| 42 | 82-ZM1-276-010 | | SPR-C,FR |
| 43 | 82-ZM1-225-010 | | GEAR,FR |
| 44 | 82-ZM1-226-010 | | GEAR,REW |
| 45 | 82-ZM1-228-210 | | SLIP DISK ASSY |
| 46 | 82-ZM1-261-110 | | BELT,FR |
| 47 | 82-ZM1-237-210 | | FLY-WHL ASSY,R (DECK 2) |
| 47 | 82-ZM3-209-110 | | FLY-WHL ASSY,R2 (DECK 1) |
| 48 | 82-ZM1-234-110 | | FLY-WHL ASSY,L (DECK 2) |
| 48 | 82-ZM3-207-210 | | FLY-WHL ASSY,L2 (DECK 1) |
| 49 | 82-ZM3-206-010 | | BELT,R |
| 50 | 82-ZM1-245-210 | | HLDR,IC |
| 51 | 82-ZM3-201-010 | | HLDR,MC |
| 52 | 82-ZM3-202-010 | | PULLEY,MOT 2M |
| 53 | 82-ZM1-288-010 | | SH,1.63-3.2-0.5 SLT |
| 54 | 80-ZM6-243-010 | | SH,1.75-3.6-0.5 SLT |
| 55 | 80-ZM6-230-010 | | SH,BELT |
| 56 | 86-575-242-010 | | CUSH-G,DIA3.7-9-3.2 |
| 57 | 86-575-361-010 | | CUSH-G,6-8-0.8 |
| 58 | 82-ZM3-205-010 | | BELT,L |
| 59 | 82-ZM3-204-010 | | PULLEY,COUPLER (DECK 1) |
| 60 | 87-045-347-010 | | MOT,SHU2L 70(M1) |
| 61 | 87-046-355-010 | | HEAD,PH HADKH2529B(PH) |
| 61 | 87-046-356-010 | | HEAD,RPH HADKH5581B(RPH) |
| A | 87-585-036-410 | | UIT+2-8 |
| B | 80-ZM6-207-010 | | V+1.6-7 |
| C | 82-ZM1-309-010 | | S-SCRW,MOTOR |
| D | 87-067-178-010 | | VTT+2.6-3 |
| E | 87-067-932-010 | | PW,2.15-6.8-0.5 SLT |
| F | 87-067-972-010 | | PW,1.05-3-0.25 SLT |

## SPRING APPLICATION POSITION


82-ZM1-257-010
SPR-T, CAS
82-ZM1-218-010
SPR-E, HB
82-ZM1-285-010
SPR-C, BT L
82-ZM1-244-010
SPR-C, BT
82-ZM1-219-010
SPR-T, LINK
82-ZM1-259-010
SPR-T, PINCH R
82-ZM1-258-010
SPR-T, PINCH L
82-ZM1-213-010
SPR-T, HEAD
82-ZM1-269-010
SPR-T, BRG
82-ZM1-214-010
SPR-T, DIR


82-ZM1-277-010
SPR-C, PLAY
82-ZM1-256-010
SPR-T, FR
82-ZM1-276-010
SPR-C, FR
82-ZM1-305-010
SPR-E.TRIG 2
82-ZM1-255-010
SPR-E, LER DIR

# REFERENCE NAME LIST

## ELECTRICAL SECTION

| DESCRIPTION | REFERENCE NAME |
|---|---|
| ANT | ANTENNAS |
| C- | CHIP |
| C-CAP | CAP, CHIP |
| C-CAP TN | CAP, CHIP TANTALUM |
| C-COIL | COIL, CHIP |
| C-DI | DIODE, CHIP |
| C-DIODE | DIODE, CHIP |
| C-FET | FET, CHIP |
| C-FOTR | FILTER, CHIP |
| C-JACK | JACK, CHIP |
| C-LED | LED, CHIP |
| C-RES | RES, CHIP |
| C-SFR | SFR, CHIP |
| C-SLIDE SW | SLIDE SWITCH, CHIP |
| C-SW | SWITCH, CHIP |
| C-TR | TRANSISTOR, CHIP |
| C-VR | VOLUME, CHIP |
| C-ZENER | ZENER, CHIP |
| CAP, CER | CAP, CERA-SOL |
| CAP, E | CAP, ELECT |
| CAP, M/F | CAP, FILM |
| CAP, TC | CAP, CERA-SOL |
| CAP, TC-U | CAP, CERA-SOL SS |
| CAP, TN | CAP, TANTALUM |
| CERA FIL | FILTER, CERAMIC |
| CF | FILTER, CERAMIC |
| DL | DELAY LINE |
| E/CAP | CAP, ELECT |
| FILT | FILTER |
| FLTR | FILTER |
| FUSE RES | RES, FUSE |
| MOT | MOTOR |
| P-DIODE | PHOTO DIODE |
| P-SNSR | PHOTO SENSER |
| P-TR | PHOTO TRANSISTOR |
| POLY VARI | VARIABLE CAPACITOR |
| PPCAP | CAP, PP |
| PT | POWER TRANSFORMER |
| PTR, RES | PTR, MELF |
| RC | REMOTE CONTROLLER |
| RES NF | RES, NON-FLAMMABLE |
| RESO | RESONATOR |
| SHLD | SHIELD |
| SOL | SOLENOID |
| SPKR | SPEAKER |
| SW, LVR | SWITCH, LEVER |
| SW, RTRY | SWITCH, ROTARY |
| SW, SL | SWITCH, SLIDE |
| TC CAP | CAP, CERA-SOL |
| THMS | THERMISTOR |
| TR | TRANSISTOR |
| TRIMMER | CAP, TRIMMER |
| TUN-CAP | VARIABLE CAPACITOR |
| VIB, CER | RESONATOR, CERAMIC |
| VIB, XTAL | RESONATOR, CRYSTAL |
| VR | VOLUME |
| ZENER | DIODE, ZENER |
| サージサプレッサ | SERGESUPPRESSOR |
| セラコン | CAP,CERA |

## MECHANICAL SECTION

| DESCRIPTION | REFERENCE NAME |
|---|---|
| ADHESHIVE | SHEET ADHESHIVE |
| AZ | AZIMUTH |
| BAR-ANT | BAR-ANTENNA |
| BAT | BATTERY |
| BATT | BATTERY |
| BRG | BEARING |
| BTN | BUTTON |
| CAB | CABINET |
| CASS | CASSETTE |
| CHAS | CHASSIS |
| CLR | COLLAR |
| CONT | CONTROL |
| CRSR | CURSOR |
| CU | CUSHION |
| CUSH | CUSHION |
| DIR | DIRECTION |
| DUBB | DUBBING |
| FL | FRONT LOADING |
| FLY-WHL | FLYWHEEL |
| FR | FRONT |
| FUN | FUNCTION |
| G-CU | G-CUSHION |
| HDL | HANDOL |
| HIMERON | CLOTH |
| HINGE, BAT | HINGE, BATTERY |
| HLDR | HOLDER |
| HT-SINK | HEAT SINK |
| IB | INSTRUCTION BOOKLET |
| IDLE | IDLER |
| IND, L-R | INDICATOR, L-R |
| KEY, CONT | KEY, CONTROL |
| KEY, PRGM | KEY, PROGRAM |
| KNOB, SL | KNOB, SLIDE |
| LBL | LABEL |
| LID, BATT | LID, BATTERY |
| LID, CASS | LID, CASSETTE |
| LVR | LEVER |
| P-SP | P-SPRING |
| PANEL, CONT | PANEL, CONTROL |
| PANEL, FR | PANEL, FRONT |
| PRGM | PROGRAM |
| PULLY, LOAD MO | PULLY, LOAD MOTOR |
| RBN | RIBBON |
| S- | SPECIAL |
| SEG | SEGMENT |
| SH | SHEET |
| SHLD-SH | SHIELD-SHEET |
| SL | SLIDE |
| SP | SPRING |
| SP-SCREW | SPECIAL-SCREW |
| SPACER, BAT | SPACER, BATTERY |
| SPR | SPRING |
| SPR-P | P-SPRING |
| SPR-PC-PUSH | P-SPRING, C-PUSH |
| T-SP | T-SPRING |
| TERM | TERMINAL |
| TRIG | TRIGGER |
| TUN | TUNING |
| VOL | VOLUME |
| W | WASHER |
| WHL | WHEEL |
| WORM-WHL | WORM-WHEEL |
| ジグアーム | ARM,SHAFT |
| ジグガイド | GUIDE,SHAFT |
| ストラップ | STRAP |
| トクナベ | S-SCREW |
| ヒンジ | HINGE |
| ヒンジビス | S-SCREW |
| ビスセレート | SCREW,SERRART |

| サービス技術ニュース | |
|---|---|
| 番　号 | 連絡内容 |
| G－　－ | |
| G－　－ | |
| G－　－ | |

931261, 750038

アイワ株式会社
**AIWA CO.,LTD.**

Tokyo Japan

〒110 東京都台東区池之端１－２－11　☎ 03 (3827) 3111 （代表）

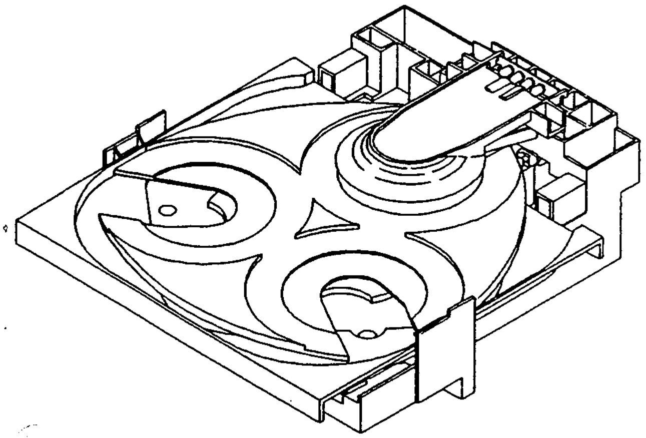
Printed in Singapore

aiwa

V12677

aiwa
SERVICE

# 4ZG-1S



## CD MECHANISM

- BASIC CD MECHANISM: KSM-2101 ABM
- TYPE: English.Japanese

SERVICE MANUAL

| BASIC NAME | DERIVATION NAME | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 4Z G-1S | G | D | F | R | FJ | V | | |

- This mechanism has various derivation. Derivation name is indicated by the Service Manual for eath model.

  本体マニュアルはBASIC CD MECHANISMのサフィックスがDERIVATION NAMEです。組み合わせて使用してください。

- This Service Manual has information abut difference between 4ZG1. if requiring the other information, see Service Manual of S/M Code No. 09-946-056-10T、No. 09-951-087-80T

  このサービスマニアルは4ZG1との変更部分のみを載せます。共通部分についてはS/M Code No. 09-946-056-10T、No. 09-951-087-80Tを参照してください。

*MC-Service*

S/M Code No. 09-955-104-70T

# ALTERATION PARTS LIST

## ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
|  | 87-070-294-010 |  | IC,CXD2508AQ |

## IC DESCRIPTION

## IC,CXD2508AQ

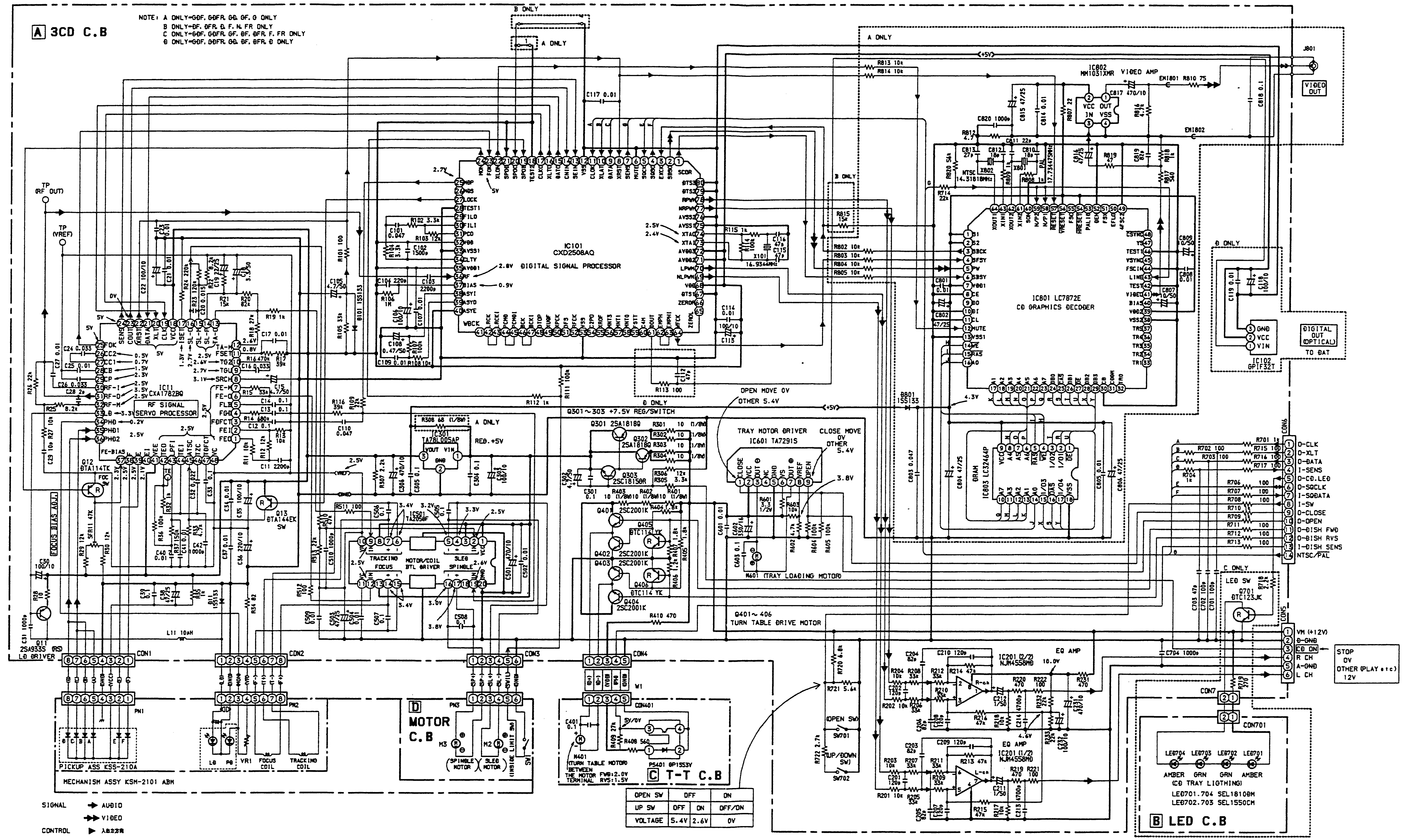
| 端子番号 | 端子名称 | I／O | 機能説明 |
|---|---|---|---|
| 1 | SCOR | O | サブコードシンクS0かS1どちらか検出された時H。 |
| 2 | SBSO | O | SUBP～Wのシリアル出力。 |
| 3 | EXCK | I | SBSOリード・アウト用クロック入力。 |
| 4 | SQSO | O | SUBQ 80BITのシリアル出力。 |
| 5 | SQCK | I | SQSOリード・アウト用クロック入力。 |
| 6 | MUTE | I | Hでミュート、Lで解除。 |
| 7 | SENS | O | SENS出力、CPU（μPD78043GF）へ出力。 |
| 8 | XRST | I | システムリセット、Lでリセット。 |
| 9 | DATA | I | CPU（μPD78043GF）よりシリアルデータ入力。 |
| 10 | XLAT | I | CPU（μPD78043GF）よりラッチ入力、立ち下がりでシリアルデータをラッチ。 |
| 11 | CLOK | I | CPU（μPD78043GF）よりシリアルデータ転送クロック入力。 |
| 12 | VSS | — | GND端子。 |
| 13 | SEIN | I | SSP（CXA1782AQ）よりセンス入力。 |
| 14 | CNIN | I | トラックジャンプ数カウント信号入力。 |
| 15 | DATO | O | SSP（CXA1782AQ）へのシリアルデータ出力。 |
| 16 | XLTO | O | SSP（CXA1782AQ）へのシリアルデータラッチ出力、立ち下がりでラッチ。 |
| 17 | CLKO | O | SSP（CXA1782AQ）へのシリアルデータ転送クロック出力。 |
| 18 | TEST2 | I | TEST用端子。（＋5Vへ接続） |
| 19～21 | SPOB～D | I | INSIDE LIMIT SW入力。 |
| 22 | XLON | O | LC7870E MUTE制御出力。 |
| 23 | FOK | I | フォーカスOK入力端子、SENS出力とサーボ・オートシーケンサに用いる。 |
| 24 | MON | O | スピンドルモータのON／OFFコントロール出力。 |
| 25 | MDP | O | スピンドルモータのサーボ制御。 |
| 26 | MDS | O | スピンドルモータのサーボ制御。（未使用） |
| 27 | LOCK | O | GFSを460Hzでサンプリングし、GFSがHの時H出力、8回連続Lの時L出力。（未使用） |
| 28 | TEST1 | I | TEST用端子。（GNDへ接続） |
| 29 | FILO | O | マスターPLL用（スレーブ＝デジタルPLL）フィルター出力。 |
| 30 | FILI | I | マスターPLL用フィルター入力。 |
| 31 | PCO | O | マスターPLL用チャージポンプ出力。 |
| 32 | VDD | — | 電源端子。（＋5V） |
| 33 | AVSS1 | — | GND端子。 |
| 34 | CLTV | I | マスターPLL用VCOコントロール電圧入力。 |
| 35 | AVDD1 | — | 電源端子。（＋5V） |
| 36 | RF | I | EFM信号入力。 |
| 37 | BIAS | I | アシンメトリ補正回路定電流入力。 |
| 38 | ASYI | I | アシンメトリ補正回路コンパレート電圧入力。 |
| 39 | ASYO | O | EFMフルスイング出力。（L＝VSS、H＝VDD） |
| 40 | ASYE | I | L：アシンメトリ補正OFF、 H：アシンメトリ補正ON（＋5Vへ接続）。 |
| 41 | WDCK | O | 48bitスロット用D／Aインターフェイス、ワードクロック（2Fs）（未使用）。 |
| 42 | LRCK | O | 48bitスロット用D／Aインターフェイス、LRクロック（Fs）。 |

| 端子番号 | 端子名称 | I/O | 機能説明 |
|---|---|---|---|
| 43 | LRCKI | I | DACへのLRクロック入力。(48bitスロット) |
| 44 | PCMD | O | D/Aインターフェイス、シリアルデータ。(2'sCOMP, MSBファースト) |
| 45 | PCMDI | I | DACへのオーディオデータ入力。(48bitスロット) |
| 46 | BCK | O | D/Aインターフェイス、ビットクロック。 |
| 47 | BCKI | I | DACへのビットクロック入力。(48bitスロット) |
| 48 | GTOP | O | GTOP出力。(未使用) |
| 49 | XUGF | O | XUGF出力。(未使用) |
| 50 | XPCK | O | XPLCK出力。(未使用) |
| 51 | GFS | O | GFS出力。(未使用) |
| 52 | RFCK | O | RFCK出力。(未使用) |
| 53 | VSS | — | GND端子。 |
| 54 | C2PO | O | C2PO出力。(未使用) |
| 55 | XROF | O | XRAOF出力。(未使用) |
| 56 | MNT3 | O | MNT3出力。(未使用) |
| 57 | MNT1 | O | MNT1出力。(未使用) |
| 58 | MNT0 | O | MNT0出力。(未使用) |
| 59 | FSTT | O | 73,74端子の2/3分周出力。(未使用) |
| 60 | C4M | O | 4.2336MHz出力。(未使用) |
| 61 | DOUT | O | Digital Out出力端子。(未使用) |
| 62 | EMPH | O | 再生ディスクがエンファシス有りの時H、無しの時L。 |
| 63 | EMPHI | I | DACのディエンファシスON/OFF、HでON、LでOFF。 |
| 64 | WFCK | O | WFCK (WRITE FRAME CLOCK) 出力。 |
| 65 | ZEROL | O | 無音データ検出出力、無音データ検出時"H"(Lch)。(未使用) |
| 66 | ZEROR | O | 無音データ検出出力、無音データ検出時"H"(Rch)。(未使用) |
| 67 | DTSI | I | DAC用テスト端子。(GNDへ接続) |
| 68 | VDD | — | 電源端子。(+5V) |
| 69 | NLPWM | O | Lch PWM出力。(逆相) |
| 70 | LPWM | O | Lch PWM出力。(正相) |
| 71 | AVDD2 | — | Lch PWMドライバ用電源。(+5Vへ接続) |
| 72 | AVDD3 | — | Xtal用電源。(+5Vへ接続) |
| 73 | XTAI | I | 33.8688MHzのXtal発振回路入力。 |
| 74 | XTAO | O | 33.8688MHzのXtal発振回路出力。 |
| 75 | AVSS3 | — | Xtal用電源。(GNDへ接続) |
| 76 | AVSS2 | — | PWMドライバ用電源。(GNDへ接続) |
| 77 | NRPWM | O | Rch PWM出力。(逆相) |
| 78 | RPWM | O | Rch PWM出力。(正相) |
| 79 | DTS2 | I | DAC用テスト端子2。(GNDへ接続) |
| 80 | DTS3 | I | DAC用テスト端子3。(GNDへ接続) |

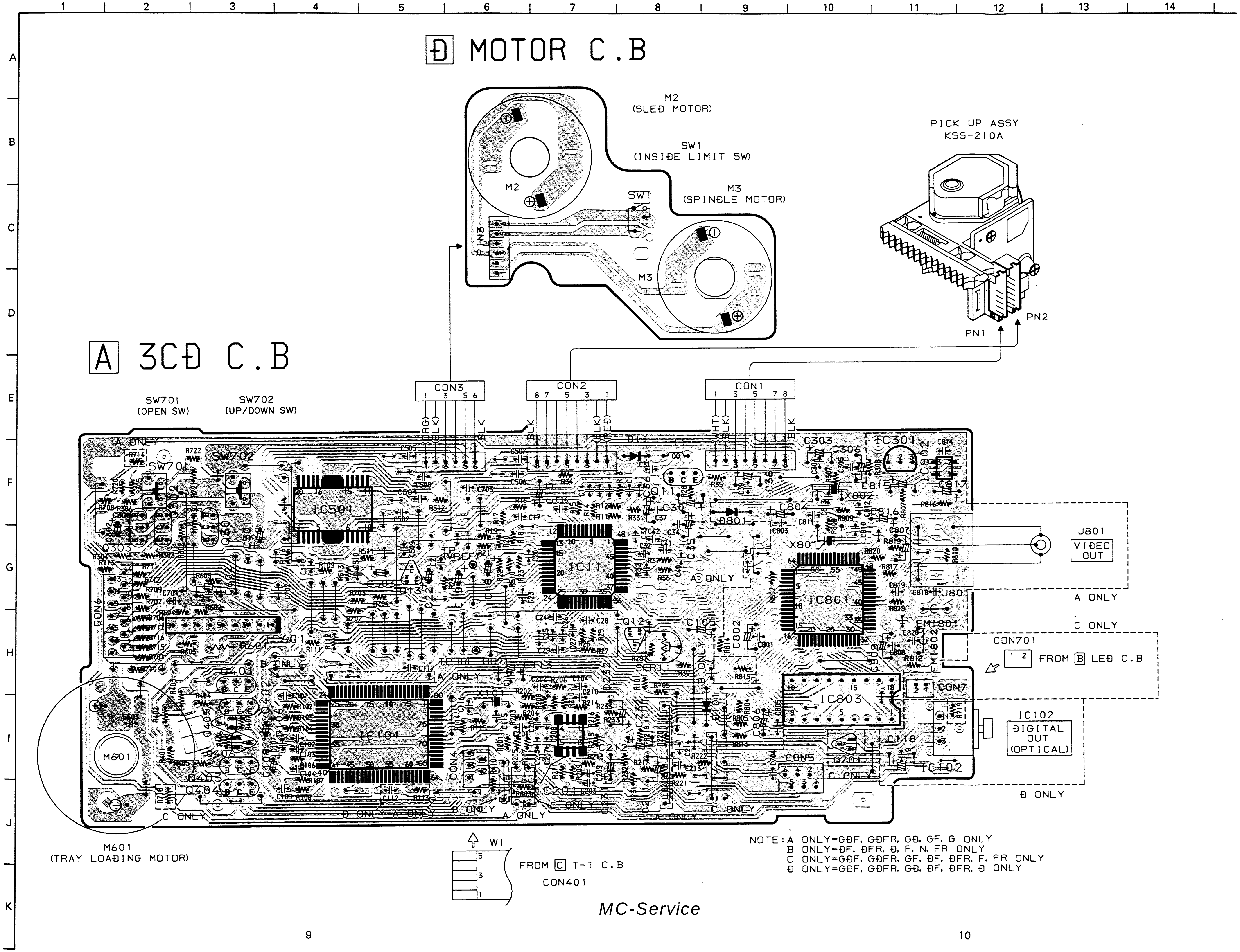
## IC,CXD2508AQ

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | SCOR | O | 1H when the subcode sync S0 or S1 is detected. (Not used) |
| 2 | SBSO | O | SUBP~W serial output. (Not used) |
| 3 | EXCK | I | Clock input for SBSO read out. |
| 4 | SQSO | O | SUBQ 80-bit serial output. |
| 5 | SQCK | I | Clock input for SQSO read out. |
| 6 | MUTE | I | "H" to mute. "L" to cancel. Connected to GND. |
| 7 | SENS | O | SENS signal output to CPU (IC201). |
| 8 | XRST | I | System reset. "L" to reset. |
| 9 | DATA | I | Serial data input from CPU (IC201). |
| 10 | XLAT | I | Latch input from CPU (IC201). Latching serial data at fall down. |
| 11 | CLOK | I | Clock input from CPU (IC201) to transfer serial data. |
| 12 | VSS | — | GND. |
| 13 | SEIN | I | SENS input from SSP (CXA1782BQ). |
| 14 | CNIN | I | Numbers of track jump are counted and input. |
| 15 | DATO | O | Serial data output to SSP (CXA1782BQ). |
| 16 | XLTO | O | Serial data latched output to SSP (CXA1782BQ). Latched at fall down edge. |
| 17 | CLKO | O | Clock input from SSP (CXA1782BQ) to transfer serial data. |
| 18 | TEST2 | I | TEST. (Connected to +5V) |
| 19~21 | SPOB~D | I | Input from INSIDE LIMIT switch (SW1). |
| 22 | XLON | O | LC7870E mute control output. (Not used) |
| 23 | FOK | I | Focus OK input pin. Used for SENS output and servo auto sequencer. |
| 24 | MON | O | Spindle motor ON/OFF control output. |
| 25 | MDP | O | Spindle motor servo control output. |
| 26 | MDS | O | Spindle motor servo control output. (Not used) |
| 27 | LOCK | O | GFS is sampled by 460Hz. H output when GFS is H. L output when GFS is L for 8 consecutive times. |
| 28 | TEST1 | I | TEST. (Connected to GND) |
| 29 | FILO | O | Filter output to master PLL. (slave=digital PLL) |
| 30 | FILI | I | Filter input to master PLL. |
| 31 | PCO | O | Charge-pump output to master PLL. |
| 32 | VDD | — | Power supply input. (+5V) |
| 33 | AVSS1 | — | GND. |
| 34 | CLTV | I | VCO control voltage input to master PLL. |
| 35 | AVDD1 | — | Power supply input. (+5V) |
| 36 | RF | I | EFM signal input. |
| 37 | BIAS | I | Constant current input to asymmetry correction circuit. |
| 38 | ASYI | I | Comparate voltage input to asymmetry correction circuit. |
| 39 | ASYO | O | EFM full swing output. (L=VSS, H=VDD) |
| 40 | ASYE | I | L: asymmetry correction OFF. H: asymmetry correction ON (connected to +5V) |
| 41 | WDCK | O | D/A interface, word clock (2Fs) for 48-bit slot. (Not used) |
| 42 | LRCK | O | D/A interface, LR clock (Fs) for 48-bit slot. |
| 43 | LRCKI | I | LR clock input to DAC. (48-bit slot) |
| 44 | PCMD | O | D/A interface, serial data. (2's complement, MSB first) |
| 45 | PCMDI | I | Audio data input to DAC. (48-bit slot) |
| 46 | BCK | O | D/A interface, bit clock. |
| 47 | BCKI | I | Bit clock input to DAC. (48-bit slot) |
| 48 | GTOP | O | GTOP output. (Not used) |
| 49 | XUGF | O | XUFG output. (Not used) |
| 50 | XPCK | O | XPLCK output. (Not used) |
| 51 | GFS | O | GFS output. (Not used) |
| 52 | RFCK | O | RFCK output. (Not used) |
| 53 | VSS | — | GND. |
| 54 | C2PO | O | C2PO output. (Not used) |
| 55 | XROF | O | XRAOF output. (Not used) |
| 56 | MNT3 | O | MNT3 output. (Not used) |
| 57 | MNT1 | O | MNT1 output. (Not used) |
| 58 | MNT0 | O | MNT0 output. (Not used) |
| 59 | FSTT | O | Pins-73 and -74 divided-by 2/3 output. (Not used) |
| 60 | C4M | O | 4.2336MHz output. (Not used) |
| 61 | DOUT | O | Digital Out connector output signal. |
| 62 | EMPH | O | H when the playback disc has emphasis. "L" when it does not. |
| 63 | EMPHI | I | DAC emphasis ON/OFF. "H" when ON. "L" when OFF |
| 64 | WFCK | O | WFCK (WRITE FRAME CLOCK) output. (Not used) |
| 65 | ZEROL | O | No sound data detection output. H (L-ch) when no sound data is detected. (Not used) |
| 66 | ZEROR | O | No sound data detection output. H (R-ch) when no sound data is detected. (Not used) |
| 67 | DTSI | I | TEST for DAC. (Connected to GND) |
| 68 | VDD | — | Power supply input. (+5V) |
| 69 | NLPWM | O | L-ch PWM output. (reversed polarity) |
| 70 | LPWM | O | L-ch PWM output. (normal polarity) |
| 71 | AVDD2 | — | Power supply input to L-ch PWM driver. (Connected to +5V) |
| 72 | AVDD3 | — | Power supply input to X'tal. (Connected to +5V) |
| 73 | XTAI | I | X'tal input to 33.8688MHz oscillator circuit. |
| 74 | XTAO | O | 33.8688MHz X'tal oscillator circuit output. |
| 75 | AVSS1 | — | Power supply input to X'tal. (Connected GND) |
| 76 | AVSS2 | — | Power supply input to PWM driver. (Connected to GND) |
| 77 | NRPWM | O | R-ch PWM output. (reversed phase) |
| 78 | RPWM | O | R-ch PWM output. (normal phase) |
| 79 | DTS2 | I | TEST-2 for DAC. (Connected to GND) |
| 80 | DTS3 | I | TEST-3 for DAC. (Connected to GND) |

# SCHEMATIC DIAGRAM – 1


A 3CD C.B
NOTE: A ONLY=GDF, GDFR, GB, GF, G ONLY
B ONLY=DF, DFR, D, F, N, FR ONLY
C ONLY=GDF, GDFR, GF, DF, DFR, F, FR ONLY
D ONLY=GDF, GDFR, GB, DF, DFR, D ONLY
B ONLY
A ONLY
IC101 CXD2508AQ DIGITAL SIGNAL PROCESSOR
IC11 CXA1782BQ RF SIGNAL SERVO PROCESSOR
IC801 LC7872E CD GRAPHICS DECODER
IC802 MM1031XMR VIDEO AMP
IC803 LC32464P DRAM
IC102 GP1F32T
DIGITAL OUT (OPTICAL) TO DAT
VIDEO OUT
J801
TP (RF OUT)
TP (VREF)
FOCUS BIAS ADJ.
Q11 2SA933S (RS) LD DRIVER
Q12 DTA114TK
Q13 DTA144EK SW
IC301 TA78L005AP REG.+5V
IC501 TA2056F MOTOR/COIL BTL DRIVER
TRACKING FOCUS
SLED SPINDLE
Q301~303 +7.5V REG/SWITCH
Q301 2SA1818Q
Q302 2SA1818Q
Q303 2SC1815GR
Q401~406 TURN TABLE DRIVE MOTOR
TRAY MOTOR DRIVER IC601 TA7291S
OPEN MOVE 0V OTHER 5.4V
CLOSE MOVE 0V OTHER 5.4V
M601 (TRAY LOADING MOTOR)
IC201 (2/2) NJM4558MD EQ AMP
IC201 (1/2) NJM4558MD EQ AMP
R-ch
L-ch
CON1 CON2 CON3 CON4 CON5 CON6 CON7 CON701
PN1 PN2 PN3
PICKUP ASS KSS-210A
MECHANISM ASSY KSM-2101 ABM
LD PD VR1 FOCUS COIL TRACKING COIL
D MOTOR C.B
M3 (SPINDLE MOTOR)
M2 (SLED MOTOR)
LIMIT SW (INSIDE SW)
C T-T C.B
M401 (TURN TABLE MOTOR) BETWEEN THE MOTOR TERMINAL FWD:2.0V RVS:1.5V
PS401 GP1S53V
OPEN SW
SW701 UP/DOWN SW
SW702
D ONLY
C ONLY
LED SW
Q701 DTC123JK
B LED C.B
LED704 LED703 LED702 LED701
AMBER GRN GRN AMBER
(CD TRAY LIGTHING)
LED701,704 SEL1810DM
LED702,703 SEL1550CM
D-CLK
D-XLT
D-DATA
I-SENS
O-CD.LED
O-SQCLK
I-SQDATA
I-SW
O-CLOSE
O-OPEN
O-DISK FWD
O-DISK RVS
I-DISK SENS
NTSC/PAL
VM (+12V)
D-GND
CD ON
R CH
A-GND
L CH
STOP 0V OTHER (PLAY etc) 12V
SIGNAL → AUDIO
→→ VIDEO
CONTROL ▶

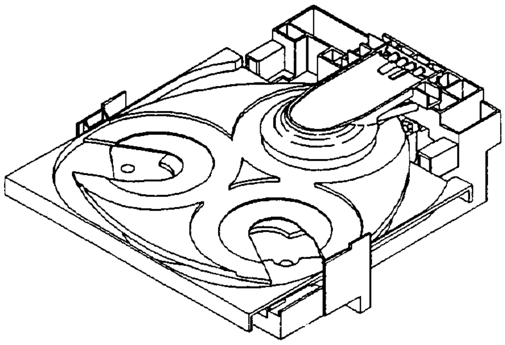
| OPEN SW | OFF | | ON |
|---|---|---|---|
| UP SW | OFF | ON | OFF/ON |
| VOLTAGE | 5.4V | 2.6V | 0V |


Ð MOTOR C.B
M2
(SLEÐ MOTOR)
SW1
(INSIÐE LIMIT SW)
M3
(SPINÐLE MOTOR)
PICK UP ASSY
KSS-210A
PN1
PN2
A 3CÐ C.B
SW701
(OPEN SW)
SW702
(UP/DOWN SW)
CON3
CON2
CON1
IC501
IC11
IC801
IC101
IC803
IC102
J801
VIÐEO OUT
A ONLY
C ONLY
CON701
FROM B LEÐ C.B
IC102
ÐIGITAL OUT (OPTICAL)
Ð ONLY
M601
M601
(TRAY LOAÐING MOTOR)
W1
FROM C T-T C.B
CON401
CON4
CON5
CON6
CON7
1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J K

NOTE: A ONLY=GÐF, GÐFR, GÐ, GF, G ONLY
B ONLY=ÐF, ÐFR, Ð, F, N, FR ONLY
C ONLY=GÐF, GÐFR, GF, ÐF, ÐFR, F, FR ONLY
Ð ONLY=GÐF, GÐFR, GÐ, ÐF, ÐFR, Ð ONLY

V15586

# 4ZG-1
# 4ZG-1S
# 4ZG-1T



CD MECHANISM

*MC-Service*

SERVICE MANUAL

- BASIC CD MECHANISM: KSM-2101 ABM / ADM
  3GZ-2 C1N / 5ZG-1 B
- TYPE: English.Japanese

| BASIC NAME | | DERIVATION NAME | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4ZG-1 | *1 | G | D | F | FJ | R | V | VI | - | - | CR | | |
| | *2 | G | D | F | - | R | - | - | V2 | V3 | - | | |
| 4ZG-1S | | G | D | F | FJ | R | - | - | - | - | - | | |
| 4ZG-1T | | G | D | F | FJ | R | - | - | - | - | - | | |

- *1, *2, BASIC NAMEは同じですが、基板構成が異なります。
  VI, CRのCD BLOCK等は、本体マニュアルに掲載されます。
- *1, *2, have the same BASIC NAME but the board structures are different. The CD BLOCK, VCD BLOCK of the VI and CR are shown on the SERVICE MANUAL of each DERIVATION NAME
- 本体マニュアルのBASIC CD MECHANISMのサフィックスがDERIVATION NAMEです。組み合わせて使用してください。
- This mechanism has various derivation. Derivation name is indicated by the Service Manual for eath model.
- 本サービスマニュアル発行後の派生メカニズムは新規作成、相異点のみ発行します。
- For different version of mechanism that may be introduced since the issue of this manual, only the new or modified points be discussed.

S/M Code No. 09-95C-124-90T

# TABLE OF CONTENTS

安全に修理 (補修) をするために ........ 3
PROTECTION OF EYES FROM LASER BEAM DURING SERVICING ........ 4
Precaution to replace Optical block ........ 5
SUFFIX NOTE ........ 6
How to Adjust Rotating Phase of the Gear, Main Cam ........ 7
TRANSISTOR ILLUSTRATION ........ 7

4ZG-1 <G, D, F, FJ, R, V, VI, CR>

ELECTRICAL MAIN PARTS LIST ........ 8, 9
BLOCK DIAGRAM-1 ........ 10, 11
SCHEMATIC DIAGRAM-1 (VI, CR) ........ 12
SCHEMATIC DIAGRAM-2 (EXCEPT VI, CR) ........ 13, 14
WIRING-1 ........ 15, 16
IC DESCRIPTION ........ 17～28
IC BLOCK DIAGRAM ........ 29, 30
TEST MODE ........ 31, 32
ELECTRICAL ADJUSTMENT ........ 33～37
MECHANICAL EXPLODED VIEW 1／1 ........ 38
MECHANICAL PARTS LIST 1／1 ........ 39
CD MECHANISM EXPLODED VIEW 1／1 (KSM-2101ADM <G, D, F, FJ, R, V>) ........ 40
CD MECHANISM PARTS LIST 1／1 ........ 40
CD MECHANISM EXPLODED VIEW 1／1 (KSM-2101ABM <VI>) ........ 41
CD MECHANISM PARTS LIST 1／1 ........ 41
CD MECHANISM EXPLODED VIEW 1／1 (5ZG-1B <CR>) ........ 42
CD MECHANISM PARTS LIST 1／1 ........ 42

4ZG-1 <G, D, F, R, V2, V3>

ELECTRICAL MAIN PARTS LIST ........ 44, 45
BLOCK DIAGRAM-1 (MAIN VCD／CD MECHA) ........ 46～48
BLOCK DIAGRAM-2 (VCD) ........ 49, 50
WIRING-1 (MAIN VCD／CD MECHA) ........ 51, 52
SCHEMATIC DIAGRAM-1 (CD MECHA) ........ 53, 54
SCHEMATIC DIAGRAM-2 (MAIN VCD) ........ 55, 56
SCHEMATIC DIAGRAM-3 (VCD 1/2 : V2) ........ 57, 58
SCHEMATIC DIAGRAM-4 (VCD 2/2 : V2) ........ 59, 60
WIRING-2 (VCD : V2) ........ 61, 62
WAVE FORM (V2) ........ 63, 64
WAVE FORM (V3) ........ 65, 66
WIRING-3 (VCD : V3) ........ 67, 68
SCHEMATIC DIAGRAM-5 (VCD 1/2 : V3) ........ 69, 70
SCHEMATIC DIAGRAM-6 (VCD 2/2 : V3) ........ 71, 72
IC DESCRIPTION ........ 73～108
IC BLOCK DIAGRAM ........ 109, 110
TEST MODE ........ 111, 112
ELECTRICAL ADJUSTMENT ........ 113～117
CD MECHANISM EXPLODED VIEW 1／1 (3ZG-2 C1N <V2, V3>) ........ 118
CD MECHANISM PARTS LIST 1／1 ........ 118

4ZG-1S

ELECTRICAL MAIN PARTS LIST ........ 119, 120
BLOCK DIAGRAM-1 ........ 121, 122
WIRING-1 ........ 123, 124
SCHEMATIC DIAGRAM-1 ........ 125, 126
IC DESCRIPTION ........ 127～130

4ZG-1T

ELECTRICAL MAIN PARTS LIST ........ 131, 132
BLOCK DIAGRAM-1 ........ 133, 134
WIRING-1 ........ 135, 136
SCHEMATIC DIAGRAM-1 ........ 137, 138
IC DESCRIPTION ........ 139～148
TEST MODE ........ 149, 150
ELECTRICAL ADJUSTMENT ........ 151～153
USE MODEL LIST ........ 154
REFERENCE NAME LIST ........ 155

# 安全に修理(補修)をするために

*修理の前に「安全に修理(補修)をするために」をよくお読みの上、正しく修理を行ってください。このサービスマニュアルでは、お客様が製品を安全に正しくお使いいただき、お客様や他の人々への危害や財産への損害を未然に防止するために、修理する場合必ず下記の項目をお守りください。*

## ⚠警告

**警告に示された次の内容を必ずお守りください。**

**☞もし守られないと、火災や感電、けがなどの重度の損害を負う原因となります。**

**1.⚠安全規格部品注意文**

・製品の安全性を維持する為の重要部品で、安全上特別な規格で作られています。
このマークの部品を交換する時は必ず指定の部品を使用してください。

**2.指定部品を使用すること。**

セットの部品は難燃性や耐電圧など安全上の特性を持ったものとなっています。従って交換部品は、使用されていたものと同じ特性の部品を使用すること。特に回路図、部品表に⚠印で指定されている安全上重要な部品は必ず指定のものをご使用ください。

**3.電源コードを含むＡＣ1次側のリード線の被覆を傷つけたり、溶かしたりしないこと。**

**4.感電に注意すること。**

内部には高電圧の部分がありますので通電時の取り扱いに際しては注意してください。

**5.次の各項目は修理前と必ず同じであること。**

1）ワイヤーの半田付け状態（特にＡＣ1次側の空間距離）
2）ワイヤーの引き回しおよび束線状態等
3）ワイヤーの種類
4）各種絶縁物の取付状態

**7.部品の取り付けや配線の引き回しはもとどおりにすること。**

安全上、チューブやテープなどの絶縁材料を使用したり、プリント基板から浮かしてとりつけた部品があります。また、内部配線は引き回しやクランパーによって発熱部品や高圧部品に接近しないよう配慮されていますので、これらは必ずもとどおりにすること。

## ⚠注意

**この表示を無視して、誤った取り扱いをすると、人が傷害を負ったり物的損害が発生する可能性があります。**

**1.注意事項を守ること。**

サービスの時特に注意を要する箇所につきましては、キャビネット、シャーシ、部品などにラベルや捺印で注意事項を表示しています。これらの注意書きおよび取扱説明書等の注意事項を必ず守ること。

**2.スペック銘板・注意ラベル・ヒューズラベル等の表示文字を汚して読みにくくならないこと。**

**3.基板パターンの裏付け部品の修理等を行う場合、パターンや部品にボンドを塗布してプリント基板にしっかり固定すること。**

**4.サービス後は安全点検すること。**

サービスのために取り外したネジ、部品、配線がもとどおりになっているか、サービスした個所の周辺を劣化させてしまったところがないかなどを点検すること。（ワイヤーの半田付け、引き回し、束線、種類、空間距離）

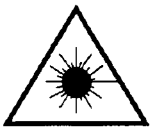
**5.修理（補修）時に、レーザー出力部に接近しないでください。**やむなく接近する場合は、目を閉じてください。レーザービームに接近することが必要になった場合、光学ピックアップブロックの対物レンズの表面から30cm以上離れていることを確認してください。

# PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

### WARNING!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- ■ Caution: Invisible laser radiation when open and interlocks defeated avoid expo-sure to beam.
- ■ Advarsel: Usynlig laserståling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

### VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainit-ulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylit-tävälle näkymättömälle lasersäteilylle.

### VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

### CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radi-ation exposure.

### ATTENTION

L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

### ADVARSEL!

Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

| | |
|---|---|
| CLASS 1 | LASER PRODUCT |
| KLASSE 1 | LASER PRODUKT |
| LUOKAN 1 | LASER LAITE |
| KLASS 1 | LASER APPARAT |

## 光学ブロック交換時の注意

光学系ブロック内のレーザーダイオードは、衣服や人体に帯電した静電荷等で電位差を生じることにより、静電破壊することがあります。人体アース、作業台のアースをとり、衣服が触れぬよう注意して下さい。

1) コネクターを接続後、下図に示すハンダ付けを取り除いて下さい。

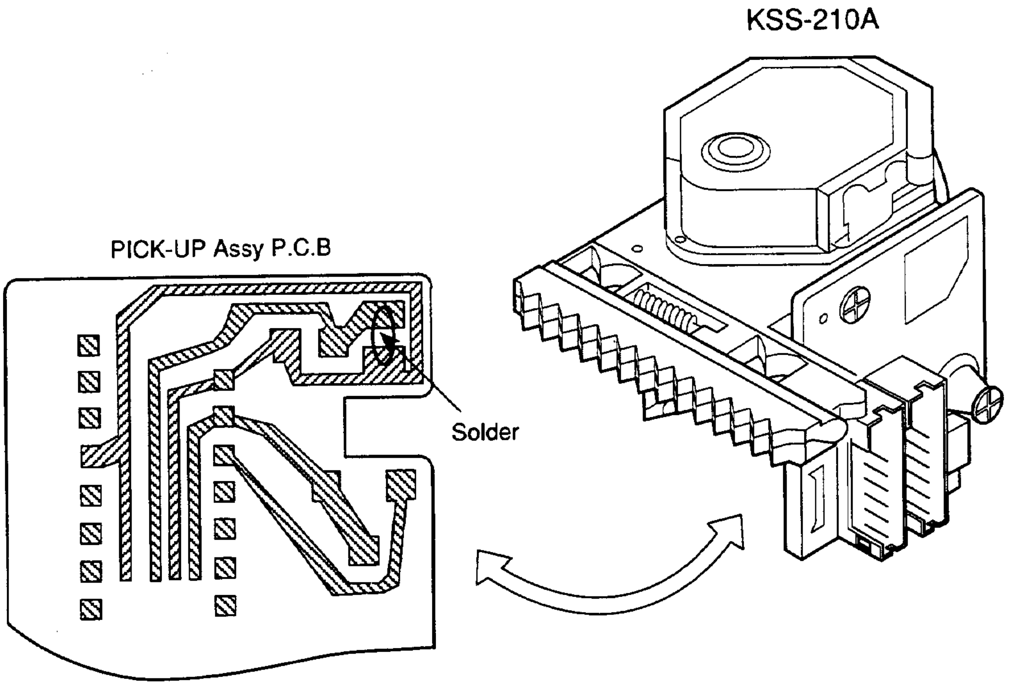
※ KSS-213Bは、上記の処理をする必要有りません。

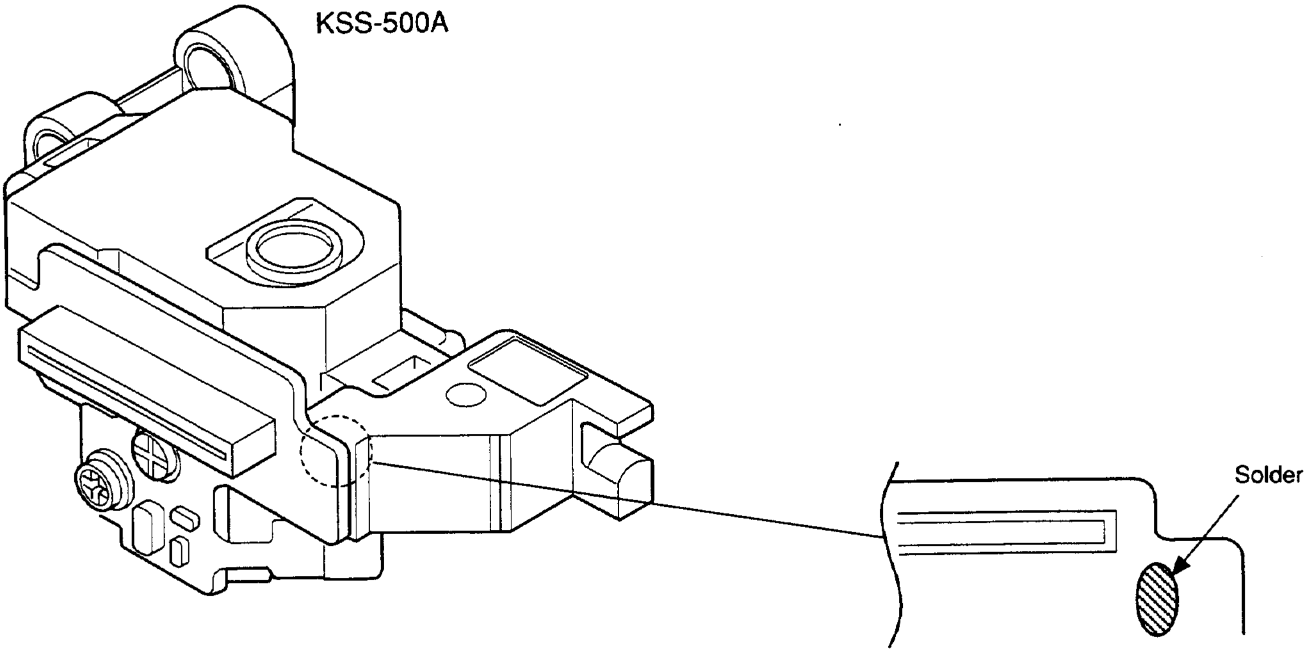
## Precaution to replace Optical block

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in the figure below.

※ The above described precautions and procedure are not necessary for KSS-213B.





本体マニュアルのBASIC CD MECHANISMのサフィックスがDERIVATION NAMEです。本サービスマニュアルは、DERIVATION NAMEを組み合わせて使用して下さい。

This is the SERVICE MANUAL for the BASIC CD MECHANISM of BASIC NAME: 4ZG-1. This BASIC NAME includes the following models as shown under the SUFFIX name: DERIVATION NAME. Please use this manual with the separate SERVICE MANUAL for DERIVATION NAME.

BASIC CD MECHANISM: 4ZG-1 GDFR

SUFFIX
(DERIVATION NAME)

BASIC NAME: 4ZG-1 (ORIGINAL MODEL)
4ZG-1S (SONY IC MODEL)
4ZG-1T (TOSHIBA IC MODEL)

| BASIC NAME | | DERIVATION NAME | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4ZG-1 | *1 | G | D | F | FJ | R | V | VI | — | — | CR |
| | *2 | G | D | F | — | R | — | — | V2 | V3 | — |
| 4ZG-1S | | G | D | F | FJ | R | — | — | — | — | — |
| 4ZG-1T | | G | D | F | FJ | R | — | — | — | — | — |

NOTE:
- *1、*2は、BASIC NAMEは同じですが、基板構成が異なります。
- VI、CRのCD BLOCK、VCD BLOCK等は、本体マニュアルに掲載されています。

NOTE:
- *1 and *2 have the same BASIC NAME but the board structures are different.
- The CD BLOCK, VCD BLOCK of the VI and CR are shown on the SERVICE MANUAL of each DERIVATION NAME.

| BOARD NAME / BASIC NAME | | 3CD C.B | LED C.B | T-T C.B | MOTOR C.B | MAIN VCD C.B | CD MECHA C.B | VCD C.B | SNSR B C.B |
|---|---|---|---|---|---|---|---|---|---|
| 4ZG-1 | *1 | ○<br>(EXCEPT VI, CR) | ○<br>(F, FJ ONLY) | ○ | ○<br>(EXCEPT CR) | — | — | — | ○<br>(CR ONLY) |
| 4ZG-1 | *2 | — | ○<br>(F ONLY) | ○ | — | ○ | ○ | ○ | — |
| 4ZG-1S | | ○ | ○<br>(F, FJ ONLY) | ○ | ○ | — | — | — | — |
| 4ZG-1T | | ○ | ○<br>(F, FJ ONLY) | ○ | ○ | — | — | — | — |

## DERIVATION NAME

| | |
|---|---|
| G: | Supporting the CD graphic feature |
| D: | Digital output function |
| F: | CD WINDOW Flash function (LED: AMBER/GREEN) |
| FJ: | CD WINDOW Flash function (LED: RED/GREEN) |
| R: | Round Tray |
| V: | Supporting the video CD function |
| VI: | Supporting the video CD function |
| V2: | Supporting the video CD function NTSC |
| V3: | Supporting the video CD function PAL |
| CR: | 3-disc CD-ROM changer |

## ギヤ、メインカムの位相の合わせ方

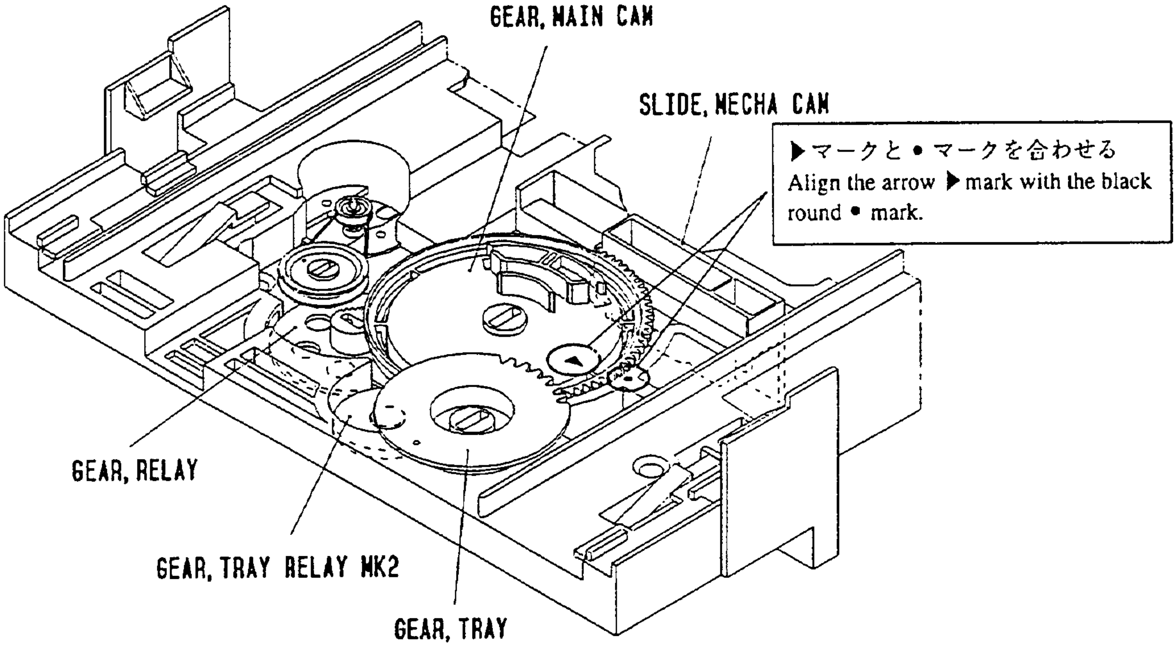
1) CHAS, MECH のツメを下側に押し、TRAY を外す。
2) 下図の様に GEAR, MAIN CAM の矢印と CHAS, MECHA の点印を合わせる。
3) SLIDE, MECH CAM が右側の位置にある事を確認し、TRAY をゆっくり挿し込んで下さい。

注意： GEAR, MAIN CAM の位相がズレている場合、チャッキング及びトレーが誤動作を起こします。

## How to Adjust the Rotating Phase of the Gear, Main Cam

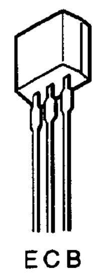
1) Push down the hooking catch of the CHAS. MECH, and remove the TRAY.
2) Align the arrow mark of the Gear, Main Cam with the black round mark of the CHAS, MECHA as shown below.
3) Confirm that the Slide, Mech Cam is located in the right position, then insert the TRAY gently.

Caution: If the rotating phase of the Gear, Main Cam is incorrectly adjusted, the chucking operation and tray movement will have malfunction.

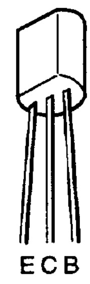


▶マークと●マークを合わせる
Align the arrow ▶ mark with the black round ● mark.

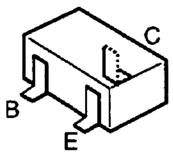
## TRANSISTOR ILLUSTRATION



2SA933



2SA934
2SA952
2SA1296
2SC1815
2SC2001
2SD655
2SD2172



2SA1162
2SA1576
2SC2712
2SC3326
2SC4081
DTA114TK
DTA123JK
DTA144EK
DTC114TK
DTC123JK
DTC124XK
DTC143TK
RN1441

# 4ZG-1<G, D, F, FJ, R, V, VI, CR>

## ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は “REFERENCE NAME LIST” を参照してください。
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

| REF. NO. | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| IC | | | |
| | 87-017-745-019 | 2A | IC,CXA1782BQ<G,D,F,FJ,R,V> |
| | 87-017-586-019 | 2E | IC,CXD2518Q<G,D,F,FJ,R,V> |
| | 87-017-825-019 | 1E | IC,GP1F32T<D> |
| | 87-017-888-089 | 1A | IC,NJM4558MD<G,D,F,FJ,R,V> |
| | 87-020-501-089 | 1A | IC,TA78L005AP<G,D,F,FJ,R,V> |
| | 87-017-801-080 | 1H | IC,TA2058F<G,D,F,FJ,R,V> |
| | 87-001-982-019 | 1B | IC,TA7291S<G,D,F,FJ,R,V> |
| | 87-017-802-010 | 2Y | IC,LC7872E<G,V> |
| | 87-002-892-089 | 1C | IC,MM1031XMR<G,V> |
| | 87-017-803-010 | 2A | IC,LC32464P-80<G,V> |
| TRANSISTOR | | | |
| | 87-026-463-089 | 0E | TR, 2SA933S (RS)<G,D,F,FJ,R,V> |
| | 87-026-233-089 | 0E | C-TR,DTA114TK<G,D,F,FJ,R,V> |
| | 87-026-211-089 | 0E | C-TR,DTA144EK T147<G,D,F,FJ,R,V> |
| | 89-109-340-489 | 0E | TR,2SA934Q<G,D,F,FJ,R,V> |
| | 89-318-155-089 | 0E | TR,2SC1815GR<G,D,F,FJ,R,V> |
| | 89-421-722-389 | 0E | TR,2SD2172V/W<G,D,F,FJ,R,V> |
| | 89-320-011-089 | 0E | TR,2SC2001K<G,D,F,FJ,R,V> |
| | 87-026-223-089 | 0E | C-TR,DTC143TK<G,D,F,FJ,R,V> |
| | 87-026-608-089 | 0E | C-TR,DTC 123 JK<F,FJ> |
| DIODE | | | |
| | 87-002-564-089 | 0E | DIODE 1SS133 RA<G,D,F,FJ,R,V> |
| | 87-020-465-089 | 0E | DIODE,1SS133<G,D,F,FJ,R,V> |
| 3CD C.B<G,D,F,FJ,R,V> | | | |
| C11 | 87-010-182-089 | 0E | C-CAP,S 2200P-50 B<G,D,F,FJ,R,V> |
| C12 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F<G,D,F,FJ,R,V> |
| C13 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F<G,D,F,FJ,R,V> |
| C14 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F<G,D,F,FJ,R,V> |
| C15 | 87-010-404-089 | 0E | CAP,E 4.7-50 SME<G,D,F,FJ,R,V> |
| C16 | 87-010-193-089 | 0E | C-CAP,S 0.033-25 F<G,D,F,FJ,R,V> |
| C17 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G,D,F,FJ,R,V> |
| C18 | 87-010-402-049 | 0E | CAP E2.2-50 SME<G,D,F,FJ,R,V> |
| C19 | 87-010-382-049 | 0E | CAP,E 22-25 SME<G,D,F,FJ,R,V> |
| C20 | 87-010-213-029 | 0E | C-CAP,S 0.015-50 B<G,D,F,FJ,R,V> |
| C21 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G,D,F,FJ,R,V> |
| C22 | 87-010-263-049 | 0E | CAP,E 100-10<G,D,F,FJ,R,V> |
| C23 | 87-015-819-089 | 0E | CHIP CAP 0.01<G,D,F,FJ,R,V> |
| C24 | 87-010-193-089 | 0E | C-CAP,S 0.033-25 F<G,D,F,FJ,R,V> |
| C25 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G,D,F,FJ,R,V> |
| C26 | 87-010-193-089 | 0E | C-CAP,S 0.033-25 F<G,D,F,FJ,R,V> |
| C27 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G,D,F,FJ,R,V> |
| C28 | 87-010-146-089 | 0E | C-CAP,S 2P-50 CH<G,D,F,FJ,R,V> |
| C29 | 87-010-154-089 | 0E | C-CAP,S 10P-50 CH<G,D,F,FJ,R,V> |
| C30 | 87-010-263-089 | 0E | CAP,E 100-10 SME 5X11<G,D,F,FJ,R,V> |
| C31 | 87-010-178-089 | 0E | C-CAP,S 1000P-50 B<G,D,F,FJ,R,V> |
| C32 | 87-010-198-089 | 0E | C-CAP,S 0.022-25 B<G,D,F,FJ,R,V> |
| C33 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F<G,D,F,FJ,R,V> |
| C34 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G,D,F,FJ,R,V> |
| C35 | 87-010-263-089 | 0E | CAP,E 100-10 SME 5X11<G,D,F,FJ,R,V> |
| C36 | 87-010-248-089 | 0E | CAP,E 220-10 SME<G,D,F,FJ,R,V> |
| C37 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G,D,F,FJ,R,V> |
| C38 | 87-010-260-089 | 0E | CAP,E 47-25 SME<G,D,F,FJ,R,V> |
| C39 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F<G,D,F,FJ,R,V> |
| C101 | 87-010-194-089 | 0E | C-CAP,S 0.047-25 F<G,D,F,FJ,R,V> |
| C102 | 87-010-186-089 | 0E | C-CAP,S 4700P-50 B<G,D,F,FJ,R,V> |
| C103 | 87-010-187-089 | 0E | C-CAP,S 5600P-50 B<G,D,F,FJ,R,V> |
| C104 | 87-012-156-089 | 0E | C-CAP,S 220P-50 CH<G,D,F,FJ,R,V> |
| C105 | 87-010-404-089 | 0E | CAP,E 4.7-50 SME<G,D,F,FJ,R,V> |
| C106 | 87-010-263-049 | 0E | CAP,E 100-10<G,D,F,FJ,R,V> |
| C107 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G,D,F,FJ,R,V> |
| C108 | 87-010-400-049 | 0E | CAP,E 0.47-50<G,D,F,FJ,R,V> |
| C109 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G,D,F,FJ,R,V> |
| C110 | 87-010-180-089 | 0E | C-CAP,S 1500P-50 B<G,D,F,FJ,R,V> |
| C111 | 87-010-154-089 | 0E | C-CAP,S 10P-50 CH<G,D,F,FJ,R,V> |
| C112 | 87-010-318-089 | 0E | C-CAP,S 47P-50 CH<D> |
| C113 | 87-010-263-089 | 0E | CAP,E 100-10 SME 5X11<G,D,F,FJ,R,V> |
| C114 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G,D,F,FJ,R,V> |
| C115 | 87-010-318-089 | 0E | C-CAP,S 47P-50 CH<G,D,F,FJ,R,V> |
| C116 | 87-010-318-089 | 0E | C-CAP,S 47P-50 CH<G,D,F,FJ,R,V> |
| C117 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G,D,F,FJ,R,V> |
| C118 | 87-010-263-089 | 0E | CAP,E 100-10 SME<D> |
| C201 | 87-012-153-089 | 0E | C-CAP,S 120P-50 CH<G,D,F,FJ,R,V> |
| C202 | 87-012-153-089 | 0E | C-CAP,S 120P-50 CH<G,D,F,FJ,R,V> |
| C203 | 87-010-321-089 | 0E | C-CAP,S 82P-50 CH<G,D,F,FJ,R,V> |
| C204 | 87-010-321-089 | 0E | C-CAP,S 82P-50 CH<G,D,F,FJ,R,V> |
| C205 | 87-010-321-089 | 0E | C-CAP,S 82P-50 CH<G,D,F,FJ,R,V> |
| C206 | 87-010-321-089 | 0E | C-CAP,S 82P-50 CH<G,D,F,FJ,R,V> |
| C207 | 87-012-153-089 | 0E | C-CAP,S 120P-50 CH<G,D,F,FJ,R> |
| C207 | 87-010-321-089 | 0E | C-CAP,S 82P-50 CH<V> |
| C208 | 87-012-153-089 | 0E | C-CAP,S 120P-50 CH<G,D,F,FJ,R> |
| C208 | 87-010-321-089 | 0E | C-CAP,S 82P-50 CH<V> |
| C209 | 87-012-153-089 | 0E | C-CAP,S 120P-50 CH<G,D,F,FJ,R> |
| C209 | 87-010-321-089 | 0E | C-CAP,S 82P-50 CH<V> |
| C210 | 87-012-153-089 | 0E | C-CAP,S 120P-50 CH<G,D,F,FJ,R> |
| C210 | 87-010-321-089 | 0E | C-CAP,S 82P-50 CH<V> |
| C211 | 87-010-401-089 | 0E | CAP,E 1-50 SME<G,D,F,FJ,R,V> |
| C212 | 87-010-401-089 | 0E | CAP,E 1-50 SME<G,D,F,FJ,R,V> |
| C213 | 87-010-186-089 | 0E | C-CAP,S 4700P-50 B<G,D,F,FJ,R,V> |
| C214 | 87-010-186-089 | 0E | C-CAP,S 4700P-50 B<G,D,F,FJ,R,V> |
| C231 | 87-010-221-089 | 0E | CAP,E 470-10<G,D,F,FJ,R,V> |
| C232 | 87-010-263-089 | 0E | CAP,E 100-10 SME<G,D,F,FJ,R,V> |
| C301 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F<G,D,F,FJ,R,V> |
| C302 | 87-015-688-019 | 0E | CAP,E 4.7-50 7L<G,D,F,FJ,R,V> |
| C303 | 87-010-248-089 | 0E | CAP,E 220-10 SME<G,D,F,FJ,R,V> |
| C304 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F<G,D,F,FJ,R,V> |
| C305 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F<G,D,F,FJ,R,V> |
| C306 | 87-016-459-049 | 0E | CAP,E 470-10 SMG<G,D,F,FJ,R,V> |
| C501 | 87-016-459-049 | 0E | CAP,E 470-10 SMG<G,D,F,FJ,R,V> |
| C502 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G,D,F,FJ,R,V> |
| C503 | 87-010-260-049 | 0E | CAP,E 47-25 SME<G,D,F,FJ,R,V> |
| C504 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G,D,F,FJ,R,V> |
| C505 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F<G,D,F,FJ,R,V> |
| C506 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F<G,D,F,FJ,R,V> |
| C507 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F<G,D,F,FJ,R,V> |
| C508 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F<G,D,F,FJ,R,V> |
| C509 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G,D,F,FJ,R,V> |
| C510 | 87-010-178-089 | 0E | C-CAP,S 1000P-50 B<G,D,F,FJ,R,V> |
| C601 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G,D,F,FJ,R,V> |
| C602 | 87-010-381-089 | 0E | CAP,E 330-16 SME<G,D,F,FJ,R,V> |
| C603 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F<G,D,F,FJ,R,V> |
| C701 | 87-010-322-089 | 0E | C-CAP,S 100P-50 CH<G,D,F,FJ,R,V> |
| C702 | 87-010-297-089 | 0E | C-CAP 100P-50CH<G,D,F,FJ,R,V> |
| C703 | 87-010-318-089 | 0E | C-CAP,S 47P-50 CH<G,D,F,FJ,R,V> |
| C704 | 87-010-178-089 | 0E | C-CAP,S 1000P-50 B<G,D,F,FJ,R,V> |

| REF. NO. | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| C705 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<V> |
| C712 | 87-010-265-049 | 0E | CAP,E 33-16 SME<G,D,F,FJ,R,V> |
| C801 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G,V> |
| C802 | 87-010-374-049 | 0E | CAP,E 47-10<G,V> |
| C803 | 87-010-194-089 | 0E | C-CAP,S 0.047-25 F<G,V> |
| C804 | 87-010-260-089 | 0E | CAP,E 47-25 SME<G,V> |
| C805 | 87-015-819-029 | 0E | C-CAP,0.01-50 BK<G,V> |
| C806 | 87-010-260-089 | 0E | CAP,E 47-25 SME<G,V> |
| C807 | 87-010-405-089 | 0E | CAP,E 10-50 SME<G,V> |
| C808 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G,V> |
| C809 | 87-010-405-089 | 0E | CAP,E 10-50 SME<G,V> |
| C810 | 87-010-313-089 | 0E | C-CAP,S 18P-50 CH<G,V> |
| C811 | 87-010-314-089 | 0E | C-CAP,S 22P-50 CH<G,V> |
| C812 | 87-010-313-089 | 0E | C-CAP,S 18P-50 CH<G,V> |
| C813 | 87-010-315-089 | 0E | C-CAP,S 27P-50 CH<G,V> |
| C814 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G,V> |
| C815 | 87-010-260-089 | 0E | CAP,E 47-25 SME<G,V> |
| C816 | 87-010-260-089 | 0E | CAP,E 47-25 SME<G,V> |
| C817 | 87-010-221-089 | 0E | CAP,E 470-10<G,V> |
| C818 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F<G,V> |
| C819 | 87-010-321-089 | 0E | C-CAP,S 82P-50 CH<G,V> |
| C820 | 87-010-178-089 | 0E | C-CAP,S 1000P-50 B<G,V> |
| CON1 | 84-ZG1-610-019 | 1B | CONN ASSY,8P-W<G,D,F,FJ> |
| CON2 | 84-ZG1-611-119 | 1B | CONN ASSY,8P-R<G,D,F,FJ> |
| CON3 | 84-ZG1-612-019 | 1B | CONN ASSY,6P<G,D,F,FJ> |
| EMI801 | 87-008-474-089 | 0E | F-BEAD,EMI BL02RN1<G,V> |
| EMI802 | 87-008-474-089 | 0E | F-BEAD,EMI BL02RN1<G,V> |
| J801 | 87-009-502-010 | 1A | JACK, PIN 1PY EARTH<G> |
| L11 | 87-003-295-089 | 0E | COIL,10UH<G,D,F,FJ,R,V> |
| M601 | 87-045-305-019 | 1E | MOTOR, RF-500TB<G,D,F,FJ,R,V> |
| SFR11 | 87-024-175-089 | 0E | SFR,47K DIA6 V<G,D,F,FJ,R,V> |
| SFR12 | 87-024-174-089 | 0E | SFR33K DIA6 V<G,D,F,FJ,R,V> |
| SFR13 | 87-024-176-089 | 0E | SFR,100K DIA6 V<G,D,F,FJ,R,V> |
| SW701 | 87-036-109-019 | 0E | SW,PUSH SPPB 61<G,D,F,FJ,R,V> |
| SW702 | 87-036-109-019 | 0E | SW,PUSH SPPB 61<G,D,F,FJ,R,V> |
| X101 | 87-030-402-089 | 1B | VIB,XTAL 16.9344 MHZ<G,D,F,FJ,R,V> |
| X801 | 80-JUC-602-080 | 1C | VIB,XTAL 17.73MHZ<G,V> |
| X802 | 80-JUC-601-080 | 1C | VIB,XTAL 14.31MHZ<G,V> |

LED C.B<F,FJ>

| REF. NO. | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| LED701 | 87-017-350-080 | 0E | LED,SEL1550CM<FJ> |
| LED701 | 87-017-806-010 | 0E | LED,SEL1810DM<F> |
| LED702 | 87-017-733-080 | 0E | LED,SEL1250SM<FJ> |
| LED702 | 87-017-350-080 | 0E | LED,SEL1550CM<F> |
| LED703 | 87-017-733-080 | 0E | LED,SEL1250SM<FJ> |
| LED703 | 87-017-350-080 | 0E | LED,SEL1550CM<F> |
| LED704 | 87-017-350-080 | 0E | LED,SEL1550CM<F> |
| LED704 | 87-017-806-010 | 0E | LED,SEL1810DM<F> |

T-T C.B

| REF. NO. | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| C401 | 87-018-214-089 | 0E | CAP TC U 0.1-50 F |
| FC401 | 84-ZG1-614-119 | 1A | CABLE FFC 5P-1.25<EXCEPT VI> |
| FC401 | 84-LG3-675-010 | 1B | CABLE,FFC 5-1.25-20<VI> |
| M401 | 87-045-364-019 | 1D | MOTOR,(BCH3B14) |
| PS401 | 87-026-573-019 | 1B | P-SNSR,GP1S53V |

MOTOR C.B<EXCEPT CR>

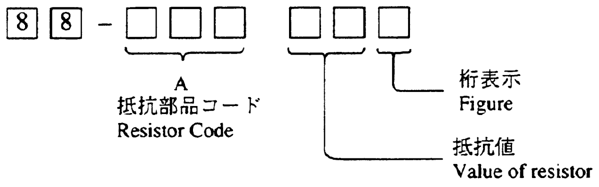
| REF. NO. | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| PIN105 | 91-564-722-110 | 1C | CONNECTOR 6P<EXCEPT CR> |
| M020 | 9X-262-513-210 | 2M | SLED MOTOR ASSY<EXCEPT CR> |
| SW001 | 91-572-085-110 | 1B | LEAF SW<EXCEPT CR> |

SNSR B C.B<CR>

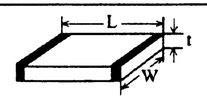
| REF. NO. | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| PS1 | 85-ZG1-607-010 | | SNSR,GP1S24<CR> |
| CON1 | 85-ZG1-622-010 | | CONN ASSY,B<CR> |
| C1 | 87-018-214-080 | | CAP TC U 0.1-50 F<CR> |

○ チップ抵抗部品コード／CHIP RESISTOR PART CODE

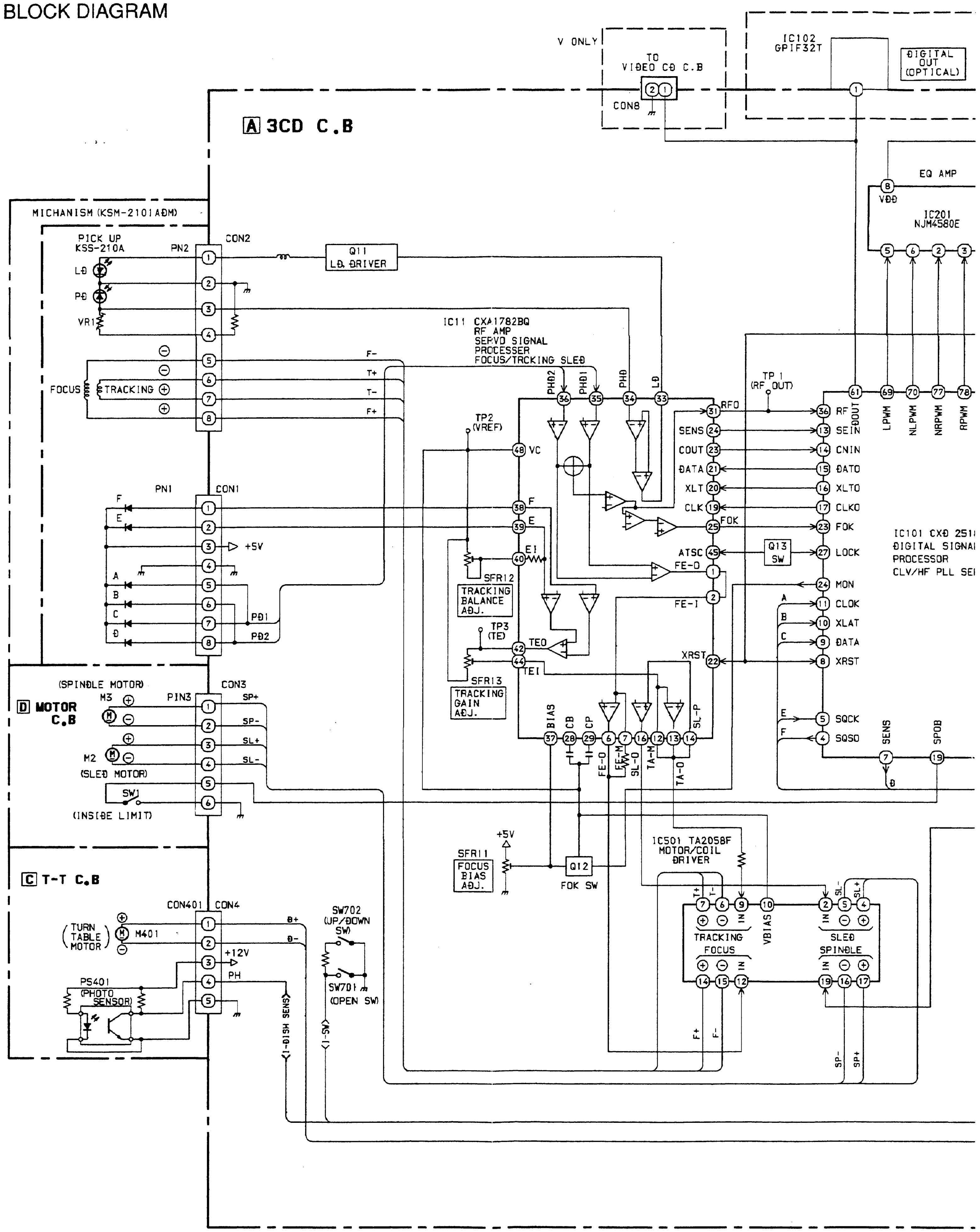
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding


8 8 - □□□ □□□
A
抵抗部品コード
Resistor Code
桁表示
Figure
抵抗値
Value of resistor

チップ抵抗
Chip resistor

| 容量<br>Wattage | 種類<br>Type | 許容誤差<br>Tolerance | 記号<br>Symbol | 寸法／Dimensions (mm) | | | | 抵抗コード ：A<br>Resistor Code: A |
|---|---|---|---|---|---|---|---|---|
| | | | | 外形／Form | L | W | t | |
| 1／16W | 1608 | ±5% | CJ |  | 1.6 | 0.8 | 0.45 | 108 |
| 1／10W | 2125 | ±5% | CJ | | 2 | 1.25 | 0.45 | 118 |
| 1／8W | 3216 | ±5% | CJ | | 3.2 | 1.6 | 0.55 | 128 |

## BLOCK DIAGRAM


V ONLY
TO VIDEO CD C.B
CON8
IC102 GPIF32T
DIGITAL OUT (OPTICAL)
A 3CD C.B
EQ AMP
VDD
IC201 NJM4580E
MICHANISM (KSM-2101ADM)
PICK UP KSS-210A
PN2
CON2
LD
PD
VR1
FOCUS
TRACKING
Q11 LD DRIVER
IC11 CXA1782BQ RF AMP SERVO SIGNAL PROCESSER FOCUS/TRCKING SLED
PHD2
PHD1
PHD
LD
TP1 (RF OUT)
RFO
RF
SEIN
CNIN
DATO
XLTO
CLKO
FOK
LOCK
MON
CLOK
XLAT
DATA
XRST
SQCK
SQSO
DOUT
LPWM
NLPWM
NRPWM
RPWM
SENS
SPDB
TP2 (VREF)
VC
SENS
COUT
DATA
XLT
CLK
FOK
ATSC
FE-O
FE-I
XRST
Q13 SW
IC101 CXD 251
DIGITAL SIGNAL PROCESSOR
CLV/HF PLL SER
PN1
CON1
+5V
F
E
EI
A
B
C
D
PD1
PD2
SFR12 TRACKING BALANCE ADJ.
TP3 (TE)
TEO
TEI
SFR13 TRACKING GAIN ADJ.
BIAS
CB
CP
FE-O
FE-M
SL-O
TA-M
TA-O
SL-P
(SPINDLE MOTOR)
M3
PIN3
CON3
D MOTOR C.B
SP+
SP-
SL+
SL-
M2
(SLED MOTOR)
SW1
(INSIDE LIMIT)
+5V
SFR11 FOCUS BIAS ADJ.
Q12
FOK SW
IC501 TA2058F MOTOR/COIL DRIVER
VBIAS
TRACKING
FOCUS
SLED
SPINDLE
C T-T C.B
CON401
CON4
(TURN TABLE MOTOR)
M401
D+
D-
+12V
PH
PS401 (PHOTO SENSOR)
SW702 (UP/DOWN SW)
SW701 (OPEN SW)
(DISH SENS)
(I-SW)
F+
F-
T+
T-
SP-
SP+

:RIPTION

9344 MHZ<G,D,F,FJ,R,V>
73MHZ<G,V>
31MHZ<G,V>

M<FJ>
M<F>
M<FJ>
M<F>
M<FJ>

M<F>
M<F>
M<F>

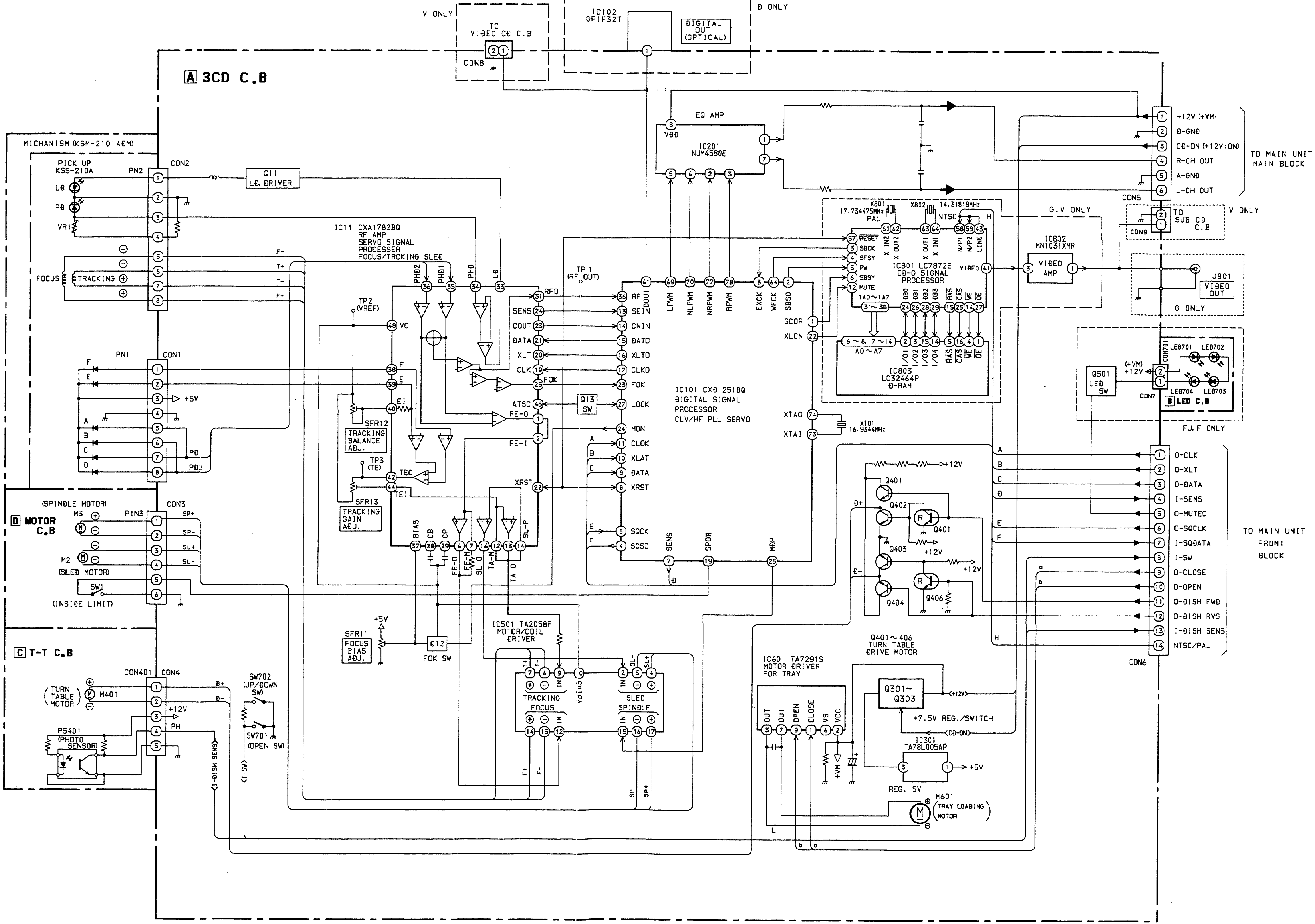
1-50 F
-1.25<EXCEPT VI>
1.25-20<VI>
14)
3V

<EXCEPT CR>
SSY<EXCEPT CR>
PT CR>

CR>
CR>
-50 F<CR>

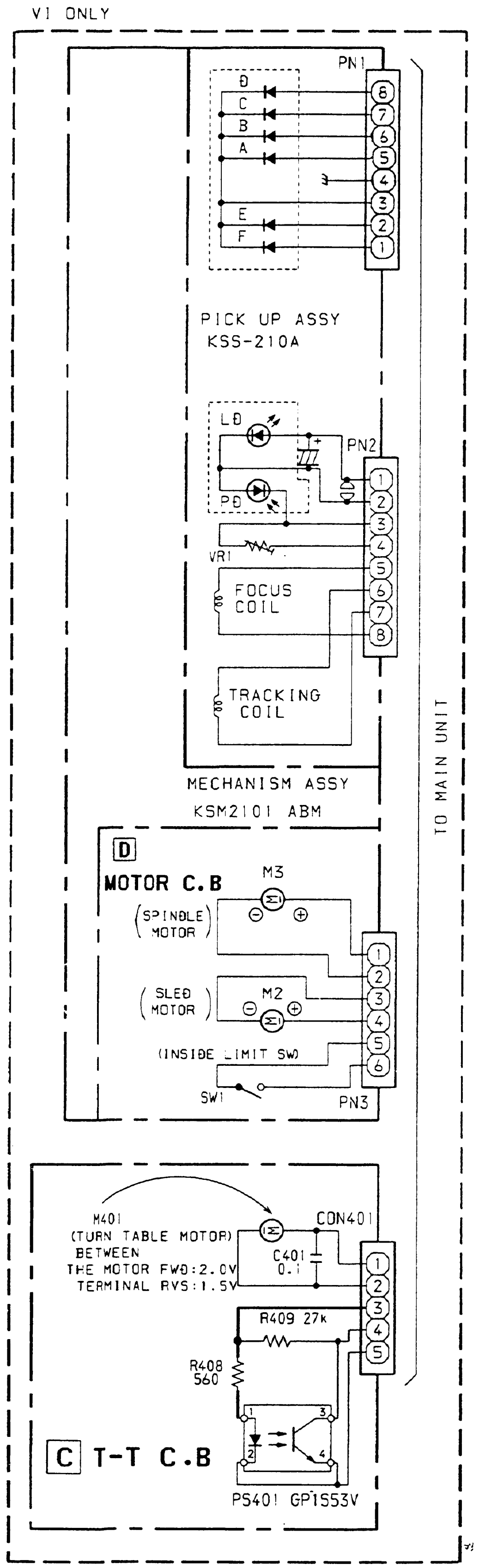
| 抗コード :A |
|---|
| esistor Code: A |
| 108 |
| 118 |
| 128 |

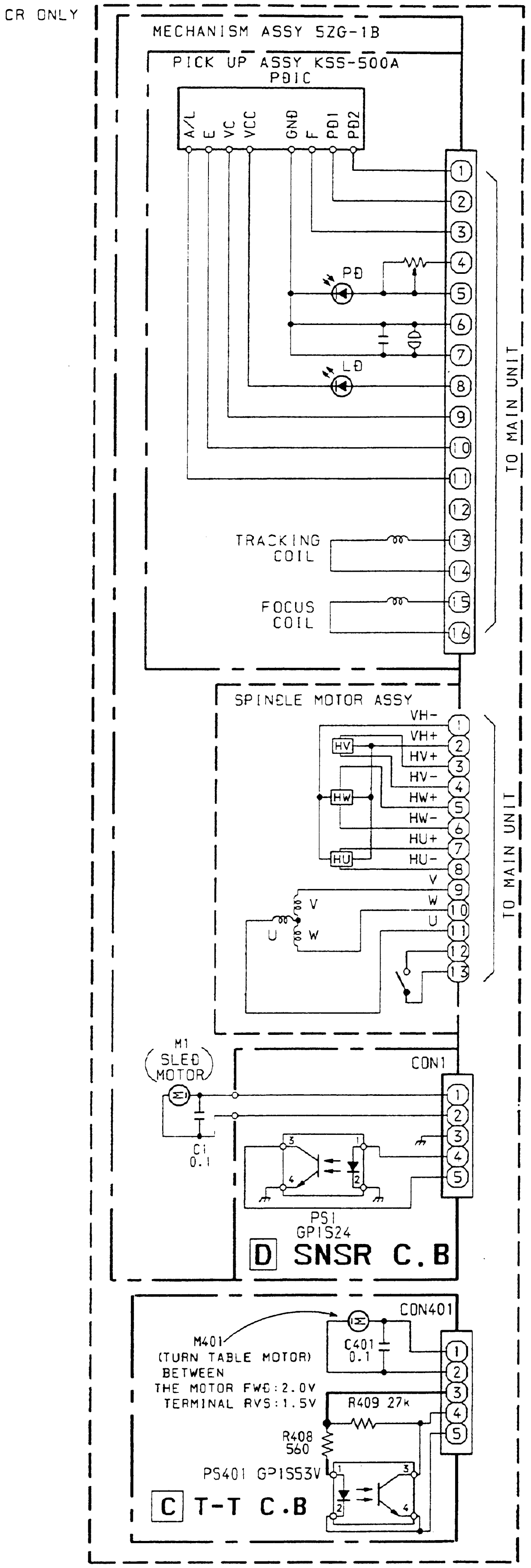
# BLOCK DIAGRAM



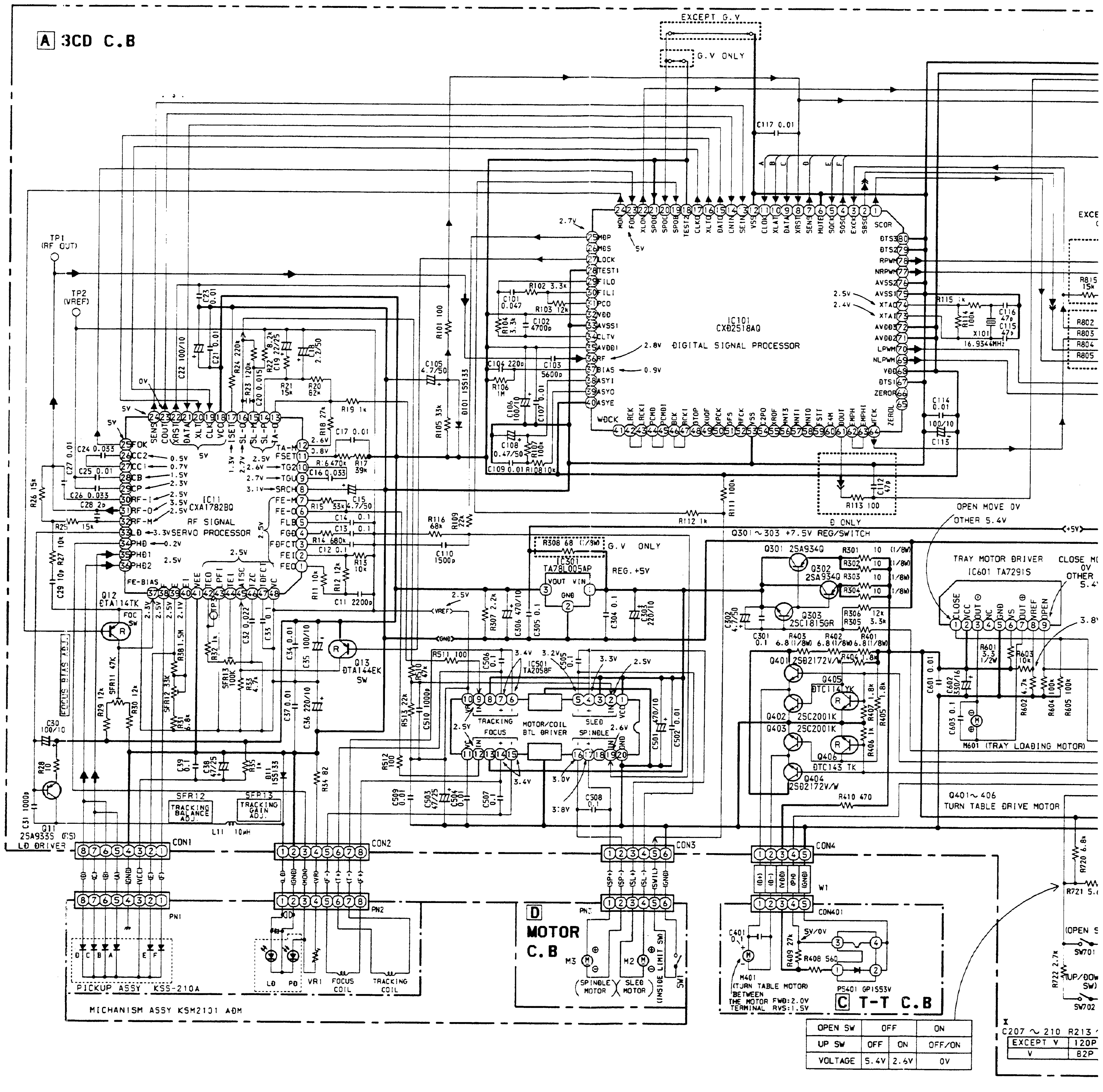
A 3CD C.B
V ONLY
TO VIDEO CD C.B
CON8
IC102 GPIF32T
DIGITAL OUT (OPTICAL)
D ONLY
MICHANISM (KSM-2101ADM)
PICK UP KSS-210A
PN2
CON2
LD
PD
VR1
FOCUS
TRACKING
Q11 LD DRIVER
IC11 CXA1782BQ RF AMP SERVO SIGNAL PROCESSER FOCUS/TRCKING SLED
TP2 (VREF)
TP 1 (RF OUT)
EQ AMP
VDD
IC201 NJM4580E
PN1
CON1
+5V
PD1
PD2
SFR12 TRACKING BALANCE ADJ.
TP3 (TE)
SFR13 TRACKING GAIN ADJ.
VC
RFO
SENS
COUT
DATA
XLT
CLK
FOK
ATSC
FE-O
FE-I
XRST
TEO
BIAS
CB
CP
FE-O
FE-M
SL-O
SL-M
TA-M
TA-O
SL-P
Q13 SW
IC101 CXD 2518Q DIGITAL SIGNAL PROCESSOR CLV/HF PLL SERVO
RF
SEIN
CNIN
DATO
XLTO
CLKO
FOK
LOCK
MON
CLOK
XLAT
DATA
XRST
SQCK
SQSO
DOUT
LPWM
NLPWM
NRPWM
RPWM
EXCK
WFCK
SBSO
SCOR
XLON
XTAO
XTAI
X101 16.9344MHz
SENS
SPOB
MDP
X801 17.734475MHz PAL
X802
14.31818MHz NTSC
IC801 LC7872E CD-G SIGNAL PROCESSOR
RESET
SBCK
SFSY
PW
SBSY
MUTE
VIDEO
1A0~1A7
A0~A7
IC803 LC32464P D-RAM
G.V ONLY
IC802 MN1031XMR
VIDEO AMP
J801 VIDEO OUT
G ONLY
V ONLY
TO SUB CD C.B
CON9
CON5
+12V (+VM)
D-GND
CD-ON (+12V:ON)
R-CH OUT
A-GND
L-CH OUT
TO MAIN UNIT MAIN BLOCK
Q501 LED SW
(+VM) +12V
CON701
LED701
LED702
LED704
LED703
CON7
B LED C.B
FJ, F ONLY
Q401
Q402
Q403
Q404
Q406
+12V
Q401~406 TURN TABLE DRIVE MOTOR
CON6
O-CLK
O-XLT
O-DATA
I-SENS
O-MUTEC
O-SQCLK
I-SQDATA
I-SW
O-CLOSE
O-OPEN
O-DISH FWD
O-DISH RVS
I-DISH SENS
NTSC/PAL
TO MAIN UNIT FRONT BLOCK
D MOTOR C.B
(SPINDLE MOTOR)
M3
PIN3
CON3
SP+
SP-
SL+
SL-
M2
(SLED MOTOR)
SW1
(INSIDE LIMIT)
C T-T C.B
CON401
CON4
TURN TABLE MOTOR
M401
PH
PS401 (PHOTO SENSOR)
SW702 (UP/DOWN SW)
SW701 (OPEN SW)
(I-DISH SENS)
(I-SW)
SFR11 FOCUS BIAS ADJ.
Q12
FOK SW
IC501 TA2058F MOTOR/COIL DRIVER
TRACKING FOCUS
SLED SPINDLE
VBIAS
IC601 TA7291S MOTOR DRIVER FOR TRAY
OUT
OPEN
CLOSE
VS
VCC
+VM
Q301~Q303
+7.5V REG./SWITCH
(CD-ON)
IC301 TA78L005AP
REG. 5V
M601 (TRAY LOADING MOTOR)

## SCHEMATIC DIAGRAM-1 (VI, CR)


VI ONLY
PN1
PICK UP ASSY
KSS-210A
LD
PD
PN2
VR1
FOCUS COIL
TRACKING COIL
MECHANISM ASSY
KSM2101 ABM
TO MAIN UNIT
D
MOTOR C.B
M3
(SPINDLE MOTOR)
(SLED MOTOR)
M2
(INSIDE LIMIT SW)
SW1
PN3
M401
(TURN TABLE MOTOR)
BETWEEN
THE MOTOR FWD:2.0V
TERMINAL RVS:1.5V
CON401
C401
0.1
R409 27k
R408
560
C T-T C.B
PS401 GP1S53V

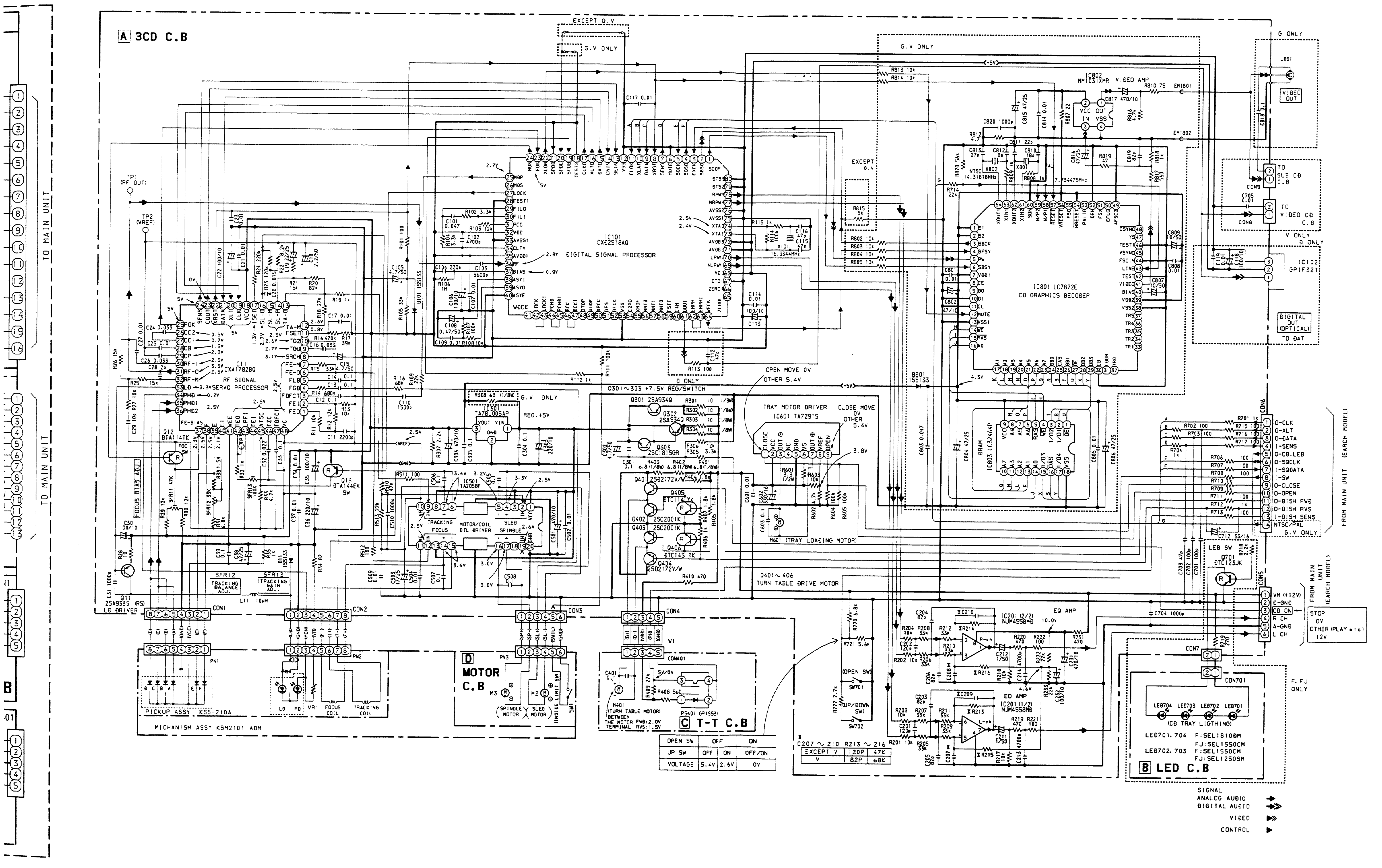

CR ONLY
MECHANISM ASSY SZG-1B
PICK UP ASSY KSS-500A
PDIC
A/L
E
VC
VCC
GND
F
PD1
PD2
PD
LD
TRACKING COIL
FOCUS COIL
TO MAIN UNIT
SPINDLE MOTOR ASSY
VH-
VH+
HV+
HV-
HW+
HW-
HU+
HU-
V
W
U
M1
SLED
MOTOR
C1
0.1
CON1
PS1
GP1S24
D SNSR C.B
M401
(TURN TABLE MOTOR)
BETWEEN
THE MOTOR FWD:2.0V
TERMINAL RVS:1.5V
CON401
C401
0.1
R409 27k
R408
560
PS401 GP1S53V
C T-T C.B

## SCHEMATIC DIAGRAM-2 (EXCEPT VI, CR)


EXCEPT G.V
G.V ONLY
A 3CD C.B
TP1
(RF OUT)
TP2
(VREF)
IC101
CXD2518AQ
DIGITAL SIGNAL PROCESSOR
IC11
CXA1782BQ
RF SIGNAL
SERVO PROCESSOR
X101
16.9344MHz
IC301
TA78L005AP
REG.+5V
G.V ONLY
D ONLY
Q301~303 +7.5V REG/SWITCH
Q301 2SA934Q
Q302 2SA934Q
Q303 2SC1815GR
TRAY MOTOR DRIVER
IC601 TA7291S
CLOSE
OPEN MOVE 0V
OTHER 5.4V
Q401 2SB2172V/W
Q405 DTC114YK
Q402 2SC2001K
Q403 2SC2001K
Q406 DTC143TK
Q404 2SB2172V/W
M601 (TRAY LOADING MOTOR)
Q401~406
TURN TABLE DRIVE MOTOR
IC501
TA2058F
TRACKING
FOCUS
MOTOR/COIL
BTL DRIVER
SLED
SPINDLE
Q12
DTA114TK
FOC SW
Q13
DTA144EK
SW
Q11
2SA935S
LD DRIVER
SFR12
TRACKING BALANCE ADJ
SFR13
TRACKING GAIN ADJ
L11 10μH
CON1
CON2
CON3
CON4
PN1
PN2
PICKUP ASSY KSS-210A
LD
PD
VR1
FOCUS COIL
TRACKING COIL
MICHANISM ASSY KSM2101 ADM
D MOTOR C.B
M3
M2
(SPINDLE MOTOR)
(SLED MOTOR)
(INSIDE LIMIT SW)
SW1
W1
CON401
C401
M401
(TURN TABLE MOTOR)
BETWEEN
THE MOTOR FWD:2.0V
TERMINAL RVS:1.5V
PS401 GP1S53V
R408 560
R409 27k
C T-T C.B
OPEN SW | OFF | ON
UP SW | OFF | ON | OFF/ON
VOLTAGE | 5.4V | 2.6V | 0V
C207~210 R213
EXCEPT V | 120P
V | 82P
SW701
SW702
UP/DOWN SW

*MC-Service*

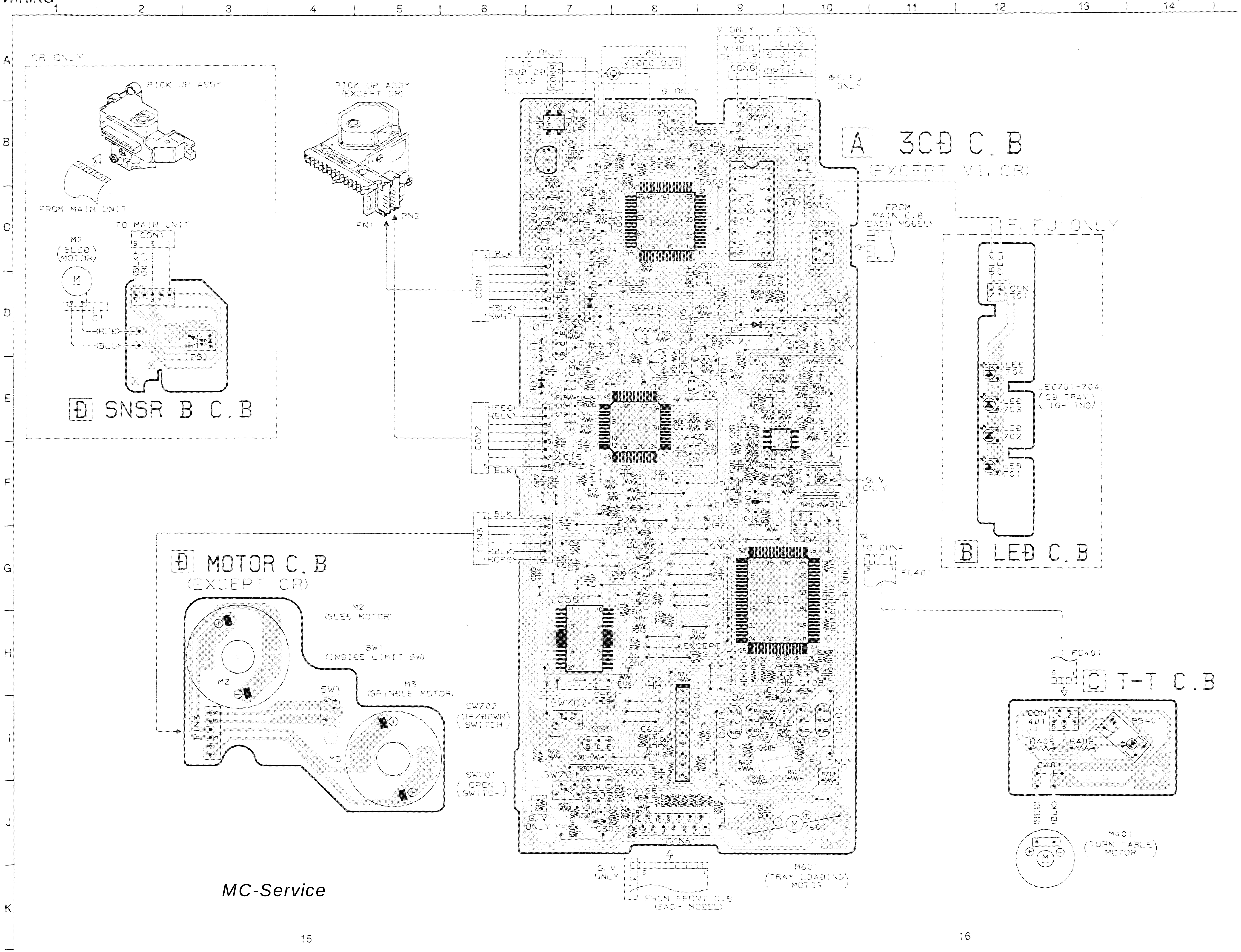
## SCHEMATIC DIAGRAM-2 (EXCEPT VI, CR)


A 3CD C.B
EXCEPT G.V
G.V ONLY
G ONLY
IC101 CXD2518AQ DIGITAL SIGNAL PROCESSOR
IC11 CXA1782BQ RF SIGNAL SERVO PROCESSOR
IC801 LC7872E CD GRAPHICS DECODER
IC802 MM1031XMR VIDEO AMP
IC803 LC3264AP DRAM
IC102 GP1F32T
IC301 TA78L005AP REG.+5V
IC501 TA2058F MOTOR/COIL BTL DRIVER
IC601 TA7291S TRAY MOTOR DRIVER
IC201 NJM4558MD EQ AMP
Q301~303 +7.5V REG/SWITCH
Q401~406 TURN TABLE DRIVE MOTOR
M601 (TRAY LOADING MOTOR)
J801 VIDEO OUT
DIGITAL OUT (OPTICAL) TO DAT
TO SUB CD C.B
TO VIDEO CD C.B
TO MAIN UNIT
FROM MAIN UNIT (EARCH MODEL)
FROM MAIN UNIT (EARCH MODEL)
O-CLK
O-XLT
O-DATA
I-SENS
O-CD.LED
O-SQCLK
I-SQDATA
I-SW
O-CLOSE
O-OPEN
O-DISH FWD
O-DISH RVS
I-DISH SENS
NTSC/PAL
VM (+12V)
D-GND
CD ON
R CH
A-GND
L CH
STOP 0V
OTHER (PLAY etc) 12V
PICKUP ASSY KSS-210A
MICHANISM ASSY KSM2101 ADM
D MOTOR C.B
SPINDLE MOTOR
SLED MOTOR
LIMIT SW
C T-T C.B
M401 (TURN TABLE MOTOR)
BETWEEN THE MOTOR TERMINAL FWD:2.0V RVS:1.5V
PS401 GP1S53
B LED C.B
LED701 LED703 LED702 LED701
(CD TRAY LIGTHING)
LED0701, 704 F:SEL1810DM FJ:SEL1550CM
LED0702, 703 F:SEL1550CM FJ:SEL1250SM
F, FJ ONLY
FOCUS BIAS ADJ
SFR12 TRACKING BALANCE ADJ
SFR13 TRACKING GAIN ADJ
TP1 (RF OUT)
TP2 (VREF)
Q11 2SA933S (RS) LD DRIVER
CON1 CON2 CON3 CON4 CON5 CON6 CON7 CON8 CON9
OPEN MOVE 0V OTHER 5.4V
CLOSE MOVE 0V OTHER 5.4V
SIGNAL
ANALOG AUDIO
DIGITAL AUDIO
VIDEO
CONTROL

| OPEN SW | OFF | ON |
|---|---|---|
| UP SW | OFF ON | OFF/ON |
| VOLTAGE | 5.4V 2.6V | 0V |

| C207 ~ 210 | R213 ~ 216 |
|---|---|
| EXCEPT V 120P | 47K |
| V 82P | 68K |

WIRING


A 3CD C.B
(EXCEPT VI, CR)
B LED C.B
C T-T C.B
D SNSR B C.B
D MOTOR C.B
(EXCEPT CR)
CR ONLY
PICK UP ASSY
FROM MAIN UNIT
TO MAIN UNIT
CON1
M2
(SLED MOTOR)
PS1
(RED)
(BLU)
(BLK)
(WHT)
(ORG)
PICK UP ASSY
(EXCEPT CR)
PN1
PN2
CON1
CON2
CON3
V ONLY
TO SUB CD C.B
J801
VIDEO OUT
G ONLY
TO VIDEO CD C.B
CON8
D ONLY
IC102
DIGITAL OUT (OPTICAL)
*F, FJ ONLY
FROM MAIN C.B (EACH MODEL)
CON5
F, FJ ONLY
IC801
IC802
IC11
IC201
IC101
IC501
IC601
SFR15
SFR11
SFR12
TP2 (VREF)
TP1 (RF)
TP3 (TE)
CON4
TO CON4
FC401
CON 701
LED 704
LED 703
LED 702
LED 701
LED701-704
(CD TRAY LIGHTING)
CON 401
PS401
R409
R406
C401
M401
(TURN TABLE MOTOR)
SW1
(INSIDE LIMIT SW)
M3
(SPINDLE MOTOR)
PIN3
SW702
(UP/DOWN SWITCH)
SW701
(OPEN SWITCH)
Q301
Q302
Q303
Q401
Q402
Q403
Q404
Q405
CON6
G, V ONLY
FROM FRONT C.B (EACH MODEL)
M601
(TRAY LOADING MOTOR)
1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J K

# IC DESCRIPTION

## IC, CXA1782BQ

| 端子番号 | 端子名称 | I/O | 機　能　説　明 |
|---|---|---|---|
| 1 | FEO | O | フォーカス・エラーアンプの出力端子です。<br>内部でFZCコンパレータ入力に接続されています。 |
| 2 | FEI | I | フォーカス・エラーの入力端子です。 |
| 3 | FDFCT | I | ディフェクト時の時定数用コンデンサ接続端子です。 |
| 4 | FGD | I | フォーカス・サーボの高域ゲインを落とす場合、この端子をコンデンサで接地します。 |
| 5 | FLB | I | フォーカス・サーボの低域持ち上げ用時定数外付け端子です。 |
| 6 | FEO | O | フォーカス・ドライブ出力です。 |
| 7 | FEM | I | フォーカス・アンプの反転入力端子です。 |
| 8 | SRCH | I | フォーカス・サーチ波菰を作るための時定数外付け端子です。 |
| 9 | TGU | I | トラッキング高域ゲイン切り換え用時定数外付け端子です。 |
| 10 | TG2 | I | トラッキング高域ゲイン切り換え用時定数外付け端子です。 |
| 11 | FSET | I | フォーカス・トラッキングの位相補償のピーク設定用端子です。 |
| 12 | TAM | I | トラッキング・アンプの反転入力端子です。 |
| 13 | TAO | O | トラッキングドライブ出力。 |
| 14 | SLP | I | スレッド・アンプの非反転入力端子です。 |
| 15 | SLM | I | スレッド・アンプの反転入力端子です。 |
| 16 | SLO | O | スレッドドライブ出力。 |
| 17 | ISET | I | フォーカスサーチ、トラックジャンプ、スレッドキックの高さを決める電流を流します。 |
| 18 | VCC | — | +5V電源供給端子。 |
| 19 | CLK | I | シリアルデータ転送クロック入力です。 |
| 20 | XLT | I | ラッチ入力です。 |
| 21 | DATA | I | シリアルデータ入力です。 |
| 22 | XRST | I | リセット入力端子“L”でリセットします。 |
| 23 | COUT | O | トラック数カウント用信号出力です。 |
| 24 | SENS | O | コマンドにより、FZC、DFCT、TZC、Gain、BAL、などを出力します。 |
| 25 | FOK | O | フォーカスOKコンパレータの出力端子です。 |
| 26 | CC2 | O | DEFECTボトム・ホールド出力が容量結合されて入力される入力端子です。 |
| 27 | CC1 | I | DEFECTボトム・ホールド出力端子です。 |
| 28 | CB | I | DEFECTボトム・ホールドコンデンサ接続端子です。 |
| 29 | CP | I | MIRRホールド・コンデンサの接続端子です。かつ、MIRRコンパレータの非反転入力端子です。 |
| 30 | RFI | I | RFサミングアンプの出力が容量結合されて入力される入力端子です。 |
| 31 | RFO | O | RFサミングアンプの出力端子です。(EYEパターンのチェックポイント) |
| 32 | RFM | I | RFサミングアンプの反転入力端子です。<br>この端子とRFO端子間に接続された抵抗でRFアンプのゲインが決まります。 |
| 33 | LD | O | APCアンプの出力端子です。 |
| 34 | PHD | I | APCアンプの入力端子です。 |
| 35～36 | PHD1～2 | I | RF I-Vアンプの反転入力端子です。光学ピックアップのA+C、B+D端子に接続して電流入力で受けます。 |
| 37 | FE BIAS | I | フォーカス・エラーアンプのバイアス調整用端子です。 |
| 38～39 | F～E | I | F、EのI-Vアンプの反転入力端子です。光学ピックアップのF、Eに接続して電流入力で受けます。 |
| 40 | EI | — | I-VアンプEのゲイン調整用端子です。 |
| 41 | VEE | — | GND接続端子。 |
| 42 | TEO | O | トラッキング・エラーアンプの出力端子です。E-F信号が出力されます。 |
| 43 | LPFI | I | BAL調整用コンパレータ入力端子です。 |
| 44 | TEI | I | トラッキング・エラーの入力端子です。 |
| 45 | ATSC | I | ATSC検出用ウインドウコンパレータ入力端子です。 |
| 46 | TZC | I | トラッキング・ゼロクロスコンパレータの入力端子です。 |
| 47 | TDFCT | I | ディフェクト時の時定数用コンデンサ接続端子。 |
| 48 | VC | O | VREFの直流電圧出力端子です。(VDD/2) |

## IC, CXD2518Q

| 端子番号 | 端子名称 | I/O | 機　能　説　明 |
|---|---|---|---|
| 1 | SCOR | O | サブコードシンク S0 か S1 どちらか検出された時 H。 |
| 2 | SBSO | O | SUBP～W のシリアル出力。 |
| 3 | EXCK | I | SBSO リード・アウト用クロック入力。 |
| 4 | SQSO | O | SUBQ 80BIT のシリアル出力。 |
| 5 | SQCK | I | SQSO リード・アウト用クロック入力。 |
| 6 | MUTE | I | H でミュート、L で解除。 |
| 7 | SENS | O | SENS 出力、CPU（μ PD78043GF）へ出力。 |
| 8 | XRST | I | システムリセット、L でリセット。 |
| 9 | DATA | I | CPU（μ PD78043GF）よりシリアルデータ入力。 |
| 10 | XLAT | I | CPU（μ PD78043GF）よりラッチ入力、立ち下がりでシリアルデータをラッチ。 |
| 11 | CLOK | I | CPU（μ PD78043GF）よりシリアルデータ転送クロック入力。 |
| 12 | VSS | — | GND 端子。 |
| 13 | SEIN | I | SSP（CXA1782AQ）よりセンス入力。 |
| 14 | CNIN | I | トラックジャンプ数カウント信号入力。 |
| 15 | DATO | O | SSP（CXA1782AQ）へのシリアルデータ出力。 |
| 16 | XLTO | O | SSP（CXA1782AQ）へのシリアルデータラッチ出力、立ち下がりでラッチ。 |
| 17 | CLKO | O | SSP（CXA1782AQ）へのシリアルデータ転送クロック出力。 |
| 18 | TEST2 | I | TEST 用端子。(+5V へ接続) |
| 19～21 | SPOB～D | I | INSIDE LIMIT SW 入力。 |
| 22 | XLON | O | LC7870E MUTE 制御出力。 |
| 23 | FOK | I | フォーカス OK 入力端子、SENS 出力とサーボ・オートシーケンサに用いる。 |
| 24 | MON | O | スピンドルモータの ON/OFF コントロール出力。 |
| 25 | MDP | O | スピンドルモータのサーボ制御。 |
| 26 | MDS | O | スピンドルモータのサーボ制御。(未使用) |
| 27 | LOCK | O | GFS を 460Hz でサンプリングし、GFS が H の時 H 出力、8 回連続 L の時 L 出力。(未使用) |
| 28 | TEST1 | I | TEST 用端子。(GND へ接続) |
| 29 | FILO | O | マスター PLL 用（スレーブ＝デジタル PLL）フィルター出力。 |
| 30 | FILI | I | マスター PLL 用フィルター入力。 |
| 31 | PCO | O | マスター PLL 用チャージポンプ出力。 |
| 32 | VDD | — | 電源端子。(+5V) |
| 33 | AVSS1 | — | GND 端子。 |
| 34 | CLTV | I | マスター PLL 用 VCO コントロール電圧入力。 |
| 35 | AVDD1 | — | 電源端子。(+5V) |
| 36 | RF | I | EFM 信号入力。 |
| 37 | BIAS | I | アシンメトリ補正回路定電流入力。 |
| 38 | ASYI | I | アシンメトリ補正回路コンパレート電圧入力。 |
| 39 | ASYO | O | EFM フルスイング出力。(L=VSS、H=VDD) |
| 40 | ASYE | I | L：アシンメトリ補正 OFF、H：アシンメトリ補正 ON (+5V へ接続)。 |
| 41 | WDCK | O | 48bit スロット用 D/A インターフェイス、ワードクロック（2Fs）(未使用)。 |
| 42 | LRCK | O | 48bit スロット用 D/A インターフェイス、LR クロック（Fs）。 |
| 43 | LRCKI | I | DAC への LR クロック入力。(48bit スロット) |
| 44 | PCMD | O | D/A インターフェイス、シリアルデータ。(2'sCOMP, MSB ファースト) |
| 45 | PCMDI | I | DAC へのオーディオデータ入力。(48bit スロット) |
| 46 | BCK | O | D/A インターフェイス、ビットクロック。 |
| 47 | BCKI | I | DAC へのビットクロック入力。(48bit スロット) |
| 48 | GTOP | O | GTOP 出力。(未使用) |
| 49 | XUGF | O | XUGF 出力。(未使用) |
| 50 | XPCK | O | XPLCK 出力。(未使用) |
| 51 | GFS | O | GFS 出力。(未使用) |
| 52 | RFCK | O | RFCK 出力。(未使用) |
| 53 | VSS | — | GND 端子。 |
| 54 | C2PO | O | C2PO 出力。(未使用) |
| 55 | XROF | O | XRAOF 出力。(未使用) |
| 56 | MNT3 | O | MNT3 出力。(未使用) |
| 57 | MNT1 | O | MNT1 出力。(未使用) |
| 58 | MNT0 | O | MNT0 出力。(未使用) |
| 59 | FSTT | O | 73,74 端子の 2/3 分周出力。(未使用) |
| 60 | C4M | O | 4.2336MHz 出力。(未使用) |
| 61 | DOUT | O | Digital Out 出力端子。(未使用) |
| 62 | EMPH | O | 再生ディスクがエンファシス有りの時 H、無しの時 L。 |
| 63 | EMPHI | I | DAC のディエンファシス ON/OFF、H で ON、L で OFF。 |
| 64 | WFCK | O | WFCK（WRITE FRAME CLOCK）出力。 |
| 65 | ZEROL | O | 無音データ検出出力、無音データ検出時 "H" (Lch)。(未使用) |
| 66 | ZEROR | O | 無音データ検出出力、無音データ検出時 "H" (Rch)。(未使用) |
| 67 | DTSI | I | DAC 用テスト端子。(GND へ接続) |
| 68 | VDD | — | 電源端子。(+5V) |
| 69 | LPWM | O | Lch PWM 出力。(正相) |
| 70 | NLPWM | O | Lch PWM 出力。(逆相) |
| 71 | AVDD2 | — | Lch PWM ドライバ用電源。(+5V へ接続) |
| 72 | AVDD3 | — | Xtal 用電源。(+5V へ接続) |
| 73 | XTAI | I | 33.8688MHz の Xtal 発振回路入力。 |
| 74 | XTAO | O | 33.8688MHz の Xtal 発振回路出力。 |
| 75 | AVSS3 | — | Xtal 用電源。(GND へ接続) |
| 76 | AVSS2 | — | PWM ドライバ用電源。(GND へ接続) |
| 77 | NRPWM | O | Rch PWM 出力。(逆相) |
| 78 | RPWM | O | Rch PWM 出力。(正相) |
| 79 | DTS2 | I | DAC 用テスト端子 2。(GND へ接続) |
| 80 | DTS3 | I | DAC 用テスト端子 3。(GND へ接続) |

## IC, LC7872E

| 端子番号 | 端子名称 | I/O | 機 能 説 明 |
|---|---|---|---|
| 1 | S1 | — | CD用DSP選択端子。(VDDに接続) |
| 2 | S2 | — | |
| 3 | SBCK | O | サブコードR～W読み出しクロック。 |
| 4 | SFSY | I | サブコードフレーム同期信号。 |
| 5 | PW | I | サブコードR～Wデータ。 |
| 6 | SBSY | I | サブコードブロック同期信号。 |
| 7 | VDD1 | — | デジタル系電源端子。(+5V) |
| 8 | CE | I | シリアル入力あるいはシリアル出力時コントロールする端子。(GNDへ接続) |
| 9 | DO | O | シリアルデータ出力。(GNDへ接続) |
| 10 | DI | I | シリアルデータ入力。(GNDへ接続) |
| 11 | CL | I | シリアルデータ入出力時のクロック。(GNDへ接続) |
| 12 | MUTE | I | サブコードデータを無効とする時のコントロール信号。 |
| 13 | VSS1 | — | デジタル系GND端子。 |
| 14 | $\overline{\mathrm{WE}}$ | O | DRAMコントロール端子。 |
| 15 | $\overline{\mathrm{RAS}}$ | O | DRAMコントロール端子。 |
| 16～23 | A0～A7 | O | DRAMアドレス端子。 |
| 24 | DB0 | I/O | DRAMデータ端子。 |
| 25 | $\overline{\mathrm{CAS}}$ | O | DRAMコントロール端子。 |
| 26 | DB1 | I/O | DRAMデータ端子。 |
| 27 | $\overline{\mathrm{DE}}$ | O | DRAMコントロール端子。 |
| 28 | DB2 | I/O | DRAMデータ端子。 |
| 29 | DB3 | I/O | DRAMデータ端子。 |
| 30 | CE | I | "L" 通常モード "H" カラーバー出力。(未使用) |
| 31 | CDGM | O | CDGディスク時 "H" 出力。(未使用) |
| 32～37 | TRANS0～5 | O | Transparencyデジタル出力。(未使用) |
| 38 | VSS2 | — | コンポジットビデオDAC GND端子。 |
| 39 | VDD2 | — | コンポジットビデオDAC電源端子。(+5V) |
| 40 | BIAS | O | リップル除去用コンデンサ接続端子。 |
| 41 | VIDEO | O | コンポジットビデオ出力端子。(8bits DAC出力) |
| 42 | TEST | I | テストピン。通常使用時は、"L" にする事。(GNDへ接続) |
| 43 | LINE | I | NP2端子 "H"  H : 263H  L : 262H<br>NP2端子 "L" の時  H : 312H  L : 314H  (未使用) |
| 44 | FSCIN | I | サブキャリアクロック入力端子。(GNDへ接続) |
| 45 | VSYNC | O | 垂直同期信号出力端子。(未使用) |
| 46 | TEST1 | I | テストピン。通常使用時は、"L" にする事。(GNDへ接続) |
| 47 | YS | O | スーパーインポーズコントロール出力。(未使用) |
| 48 | $\overline{\mathrm{CSTNC}}$ | O | 複合同期信号出力。(未使用) |
| 49 | GND | — | GND。 |
| 50 | EFLG | O | エラー状況モニタ端子。(未使用) |
| 51 | FSX | O | エラー状況モニタトリガ用。(未使用) |
| 52 | DEN | I | DISC情報表示イネーブル端子。 H : BGC L : イネーブル (GNDへ接続) |
| 53 | PALID | I | スーパーインポーズPAL時外部コントロール端子。(未使用) |
| 54 | VDD3 | — | デジタル電源端子 (+5V) |
| 55 | FSC | O | サブキャリアクロック出力。 NTSCモード : 3.579545MHz PALモード : 4.433619MHz |
| 56 | VDD4 | — | デジタル電源端子 (+5V) |
| 57 | $\overline{\mathrm{RESET}}$ | I | リセット入力端子。 |
| 58 | N/P1 | I | NTSC/PAL選択端子 (RGBエンコーダ) "H" NTSC "L" : PAL |
| 59 | N/P2 | I | NTSC/PAL選択端子 (CD-Gエンコーダ) "H" NTSC "L" : PAL |
| 60 | SON | I | スーパーインポーズON/OFF端子 (GNDへ接続) |
| 61 | XIN2 | I | 水晶振動子接続端子 17.734476MHz。(PAL用) |
| 62 | XOUT2 | O | |
| 63 | XIN1 | I | 水晶振動子接続端子 14.31818MHz。(NTSC用) |
| 64 | XOUT1 | O | |

## IC, CXA1782BQ

| Pin No. | Pin name | I/O | Description |
|---|---|---|---|
| 1 | FEO | O | Focus error amplifier output pin. This pin is connected to the FZC comparator input internally. |
| 2 | FEI | I | Focus error input pin. |
| 3 | FDFCT | I | Capacitor connection pin for time constant used when there is defect. |
| 4 | FGD | I | This pin is connected to GND via capacitor when high frequency gain of the focus servo is attenuated. |
| 5 | FLB | I | This is a pin where the time constant is externally connected to raise the low frequency gain of the focus servo. |
| 6 | FEO | O | Focus drive output. |
| 7 | FEM | I | Focus amplifier inverted input pin. |
| 8 | SRCH | I | This is a pin where the time constant is externally connected to generate the focus search waveform. |
| 9 | TGU | I | This is a pin where the selection time constant is externally connected to set the tracking servo the high frequency gain. |
| 10 | TG2 | I | This is a pin where the selection time constant is externally connected to set the tracking high frequency gain. |
| 11 | FSET | I | Pin for setting peak of the phase compensator of the focus tracking. |
| 12 | TAM | I | Tracking amplifier inverted input pin. |
| 13 | TAO | O | Tracking drive output. |
| 14 | SLP | I | Sled amplifier non-inverted input pin. |
| 15 | SLM | I | Sled amplifier inverted input pin. |
| 16 | SLO | O | Sled drive output. |
| 17 | ISET | I | The current which determines height of the focus search, track jump and sled kick is input. |
| 18 | VCC | — | + 5 V power supply pin. |
| 19 | CLK | I | Serial data transfer clock input from CPU. |
| 20 | XLT | I | Latch input from CPU. |
| 21 | DATA | I | Serial data input from CPU . |
| 22 | XRST | I | Reset input pin. Reset at L. |
| 23 | COUT | O | Signal output to count the number of tracks. |
| 24 | SENS | O | FZC, DFCT, TZC, Gain or BAL is output depending on the command from CPU . |
| 25 | FOK | O | Output pin of the focus OK comparator. |
| 26 | CC2 | O | Input pin where the DEFECT bottom hold output is capacitance coupled. |
| 27 | CC1 | I | DEFECT bottom hold output pin. |
| 28 | CB | I | This is a pin where the DEFECT bottom hold capacitor is connected. |
| 29 | CP | I | This is a pin where the MIRR hold capacitor is connected and MIRR comparator non-inverted signal is input. |
| 30 | RFI | I | Input pin where the RF summing amplifier output is capacitance coupled. |
| 31 | RFO | O | RF summing amplifier output pin. (Eye pattern check point) |
| 32 | RFM | I | RF summing amplifier inverted input pin. Gain of RF amplifier is determined by the resistor connected between RFO and this pin. |
| 33 | LD | O | APC amplifier output pin. |
| 34 | PHD | I | APC amplifier input pin. |
| 35~36 | PHD1~2 | I | RF I-V amplifier inverted input pin.<br>These pins are connected to the A+C and B+D pins of the optical pickup. |
| 37 | FE BIAS | I | Bias adjustment pin of the focus error amplifier. |
| 38~39 | F~E | I | F and E IV amplifier non-inverted input pins.<br>These pins are connected to the F and E of the optical pickup. |
| 40 | EI | — | Gain adjustment pin of the I-V amplifier E. |
| 41 | VEE | — | GND connection pin |
| 42 | TEO | O | Tracking error amplifier output pin. E-F signal is output. |
| 43 | LPFI | I | BAL adjustment comparator input pin. |
| 44 | TEI | I | Tracking error input pin. |
| 45 | ATSC | I | Window comparator input pin for detecting ATSC. |
| 46 | TZC | I | Tracking zero-cross comparator input pin. |
| 47 | TDFCT | I | Capacitor connection pin for the time constant used when there is defect. |
| 48 | VC | O | DC voltage output pin of VREF. (VDD/2) |

## IC, CXD2518Q

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | SCOR | O | 1H when the subcode sync S0 or S1 is detected. (Not used) |
| 2 | SBSO | O | SUBP~W serial output. (Not used) |
| 3 | EXCK | I | Clock input for SBSO read out. |
| 4 | SQSO | O | SUBQ 80-bit serial output. |
| 5 | SQCK | I | Clock input for SQSO read out. |
| 6 | MUTE | I | "H" to mute. "L" to cancel. Connected to GND. |
| 7 | SENS | O | SENS signal output to CPU (IC201). |
| 8 | XRST | I | System reset. "L" to reset. |
| 9 | DATA | I | Serial data input from CPU (IC201). |
| 10 | XLAT | I | Latch input from CPU (IC201). Latching serial data at fall down. |
| 11 | CLOK | I | Clock input from CPU (IC201) to transfer serial data. |
| 12 | VSS | — | GND. |
| 13 | SEIN | I | SENS input from SSP (CXA1782BQ). |
| 14 | CNIN | I | Numbers of track jump are counted and input. |
| 15 | DATO | O | Serial data output to SSP (CXA1782BQ). |
| 16 | XLTO | O | Serial data latched output to SSP (CXA1782BQ). Latched at fall down edge. |
| 17 | CLKO | O | Clock input from SSP (CXA1782BQ) to transfer serial data. |
| 18 | TEST2 | I | TEST. (Connected to +5V) |
| 19~21 | SPOB~D | I | Input from INSIDE LIMIT switch (SW1). |
| 22 | XLON | O | LC7870E mute control output. (Not used) |
| 23 | FOK | I | Focus OK input pin. Used for SENS output and servo auto sequencer. |
| 24 | MON | O | Spindle motor ON/OFF control output. |
| 25 | MDP | O | Spindle motor servo control output. |
| 26 | MDS | O | Spindle motor servo control output. (Not used) |
| 27 | LOCK | O | GFS is sampled by 460Hz. H output when GFS is H. L output when GFS is L for 8 consecutive times. |
| 28 | TEST1 | I | TEST. (Connected to GND) |
| 29 | FILO | O | Filter output to master PLL. (slave=digital PLL) |
| 30 | FILI | I | Filter input to master PLL. |
| 31 | PCO | O | Charge-pump output to master PLL. |
| 32 | VDD | — | Power supply input. (+5V) |
| 33 | AVSS1 | — | GND. |
| 34 | CLTV | I | VCO control voltage input to master PLL. |
| 35 | AVDD1 | — | Power supply input. (+5V) |
| 36 | RF | I | EFM signal input. |
| 37 | BIAS | I | Constant current input to asymmetry correction circuit. |
| 38 | ASYI | I | Comparate voltage input to asymmetry correction circuit. |
| 39 | ASYO | O | EFM full swing output. (L=VSS, H=VDD) |
| 40 | ASYE | I | L: asymmetry correction OFF. H: asymmetry correction ON (connected to +5V) |
| 41 | WDCK | O | D/A interface, word clock (2Fs) for 48-bit slot. (Not used) |
| 42 | LRCK | O | D/A interface, LR clock (Fs) for 48-bit slot. |

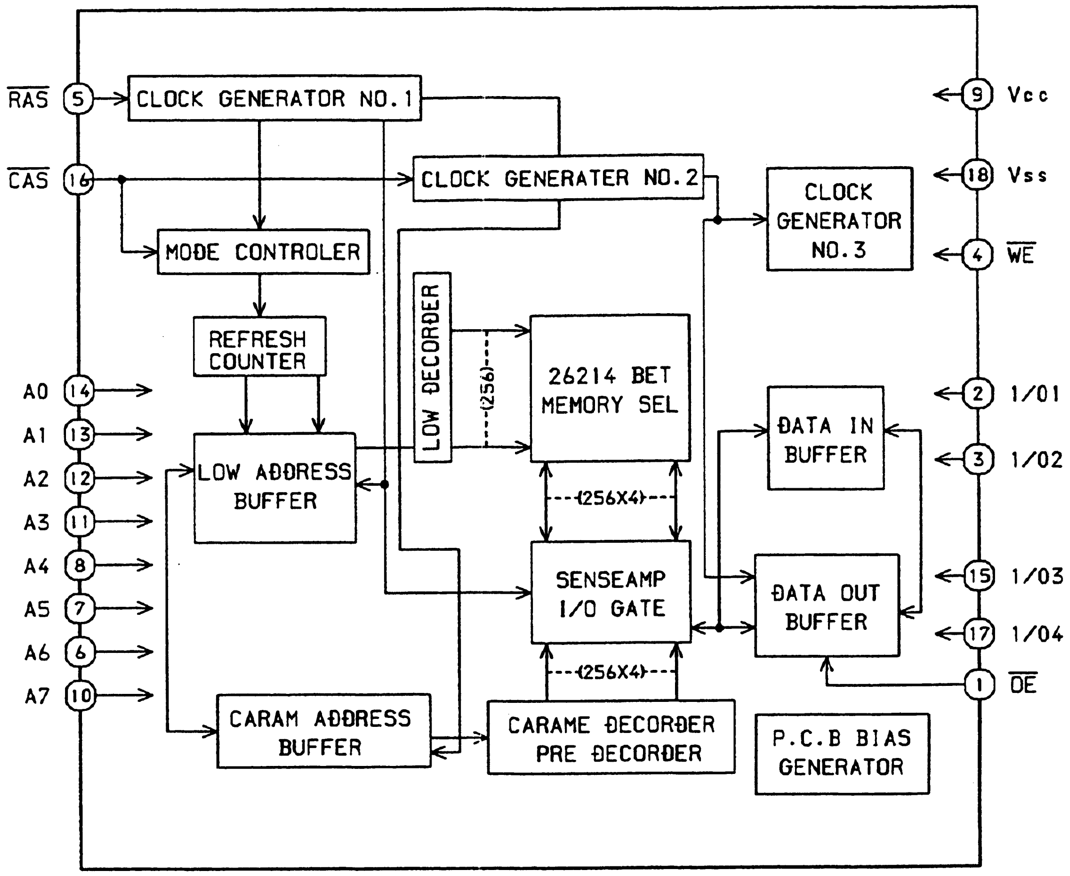
| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 43 | LRCKI | I | LR clock input to DAC. (48-bit slot) |
| 44 | PCMD | O | D/A interface, serial data. (2's complement, MSB first) |
| 45 | PCMDI | I | Audio data input to DAC. (48-bit slot) |
| 46 | BCK | O | D/A interface, bit clock. |
| 47 | BCKI | I | Bit clock input to DAC. (48-bit slot) |
| 48 | GTOP | O | GTOP output. (Not used) |
| 49 | XUGF | O | XUFG output. (Not used) |
| 50 | XPCK | O | XPLCK output. (Not used) |
| 51 | GFS | O | GFS output. (Not used) |
| 52 | RFCK | O | RFCK output. (Not used) |
| 53 | VSS | — | GND. |
| 54 | C2PO | O | C2PO output. (Not used) |
| 55 | XROF | O | XRAOF output. (Not used) |
| 56 | MNT3 | O | MNT3 output. (Not used) |
| 57 | MNT1 | O | MNT1 output. (Not used) |
| 58 | MNT0 | O | MNT0 output. (Not used) |
| 59 | FSTT | O | Pins-73 and -74 divided-by 2/3 output. (Not used) |
| 60 | C4M | O | 4.2336MHz output. (Not used) |
| 61 | DOUT | O | Digital Out connector output signal. |
| 62 | EMPH | O | H when the playback disc has emphasis. "L" when it does not. |
| 63 | EMPHI | I | DAC emphasis ON/OFF. "H" when ON. "L" when OFF |
| 64 | WFCK | O | WFCK (WRITE FRAME CLOCK) output. (Not used) |
| 65 | ZEROL | O | No sound data detection output. H (L-ch) when no sound data is detected. (Not used) |
| 66 | ZEROR | O | No sound data detection output. H (R-ch) when no sound data is detected. (Not used) |
| 67 | DTSI | I | TEST for DAC. (Connected to GND) |
| 68 | VDD | — | Power supply input. (+5V) |
| 69 | LPWM | O | L-ch PWM output. (normal polarity) |
| 70 | NLPWM | O | L-ch PWM output. (reversed polarity) |
| 71 | AVDD2 | — | Power supply input to L-ch PWM driver. (Connected to +5V) |
| 72 | AVDD3 | — | Power supply input to X'tal. (Connected to +5V) |
| 73 | XTAI | I | X'tal input to 33.8688MHz oscillator circuit. |
| 74 | XTAO | O | 33.8688MHz X'tal oscillator circuit output. |
| 75 | AVSS3 | — | Power supply input to X'tal. (Connected GND) |
| 76 | AVSS2 | — | Power supply input to PWM driver. (Connected to GND) |
| 77 | NRPWM | O | R-ch PWM output. (reversed phase) |
| 78 | RPWM | O | R-ch PWM output. (normal phase) |
| 79 | DTS2 | I | TEST-2 for DAC. (Connected to GND) |
| 80 | DTS3 | I | TEST-3 for DAC. (Connected to GND) |

## IC, LC7872E

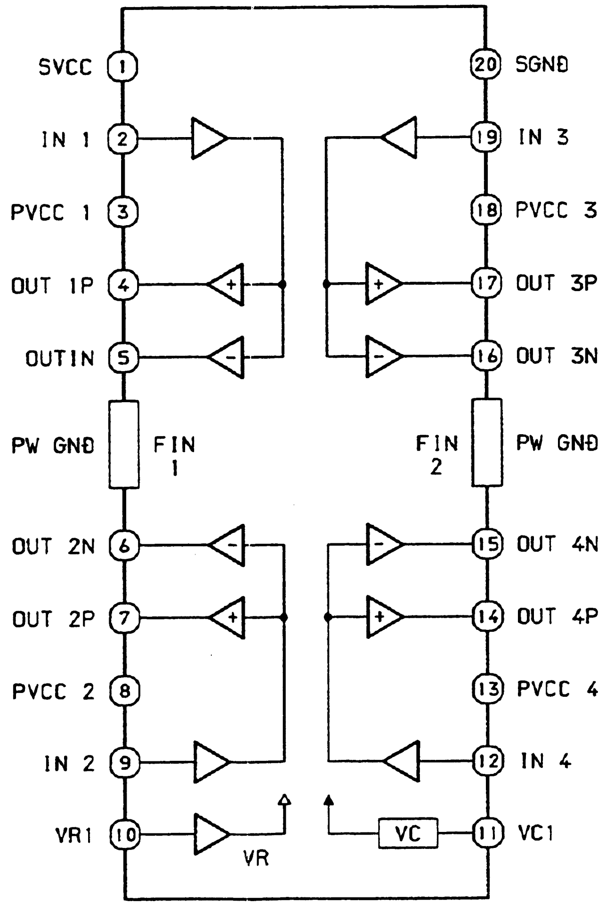
| Pin No. | Pin name | I/O | Description |
|---|---|---|---|
| 1, 2 | S1, S2 | — | DSP select pin for CD. (Connected to VDD) |
| 3 | SBCK | O | Subcode read/write clock. |
| 4 | SFSY | I | Subcode frame sync signal. |
| 5 | PW | I | Subcode read/write data. |
| 6 | SBSY | I | Subcode block sync signal. |
| 7 | VDD1 | — | Power supply for digital block. (Connected to +5V) |
| 8 | CE | I | Control pin when serial input or serial output. (Connected to GND) |
| 9 | DO | O | Serial data output. (Connected to GND) |
| 10 | DI | I | Serial data input. (Connected to GND) |
| 11 | CL | I | Clock when inputting/outputting serial data. (Connected to GND) |
| 12 | MUTE | I | Control signal disabling the subcode. |
| 13 | VSS1 | — | GND for digital block. |
| 14 | $\overline{\text{WE}}$ | O | DRAM control pin. |
| 15 | $\overline{\text{RAS}}$ | O | DRAM control pin. |
| 16~23 | A0~A7 | O | DRAM address pin. |
| 24 | DB0 | I/O | DRAM data pin. |
| 25 | $\overline{\text{CAS}}$ | O | DRAM control pin. |
| 26 | DB1 | I/O | DRAM data pin. |
| 27 | $\overline{\text{DE}}$ | O | DRAM control pin. |
| 28 | DB2 | I/O | DRAM data pin. |
| 29 | DB3 | I/O | DRAM data pin. |
| 30 | CE | I | "L": Normal mode "H": Color bar output (Not used) |
| 31 | CDGM | O | "H" output when CDG disk. (Not used) |
| 32 | TRANS0 | O | Transparency digital output. (Not used) |
| 33 | TRANS1 | O | Transparency digital output. (Not used) |
| 34 | TRANS2 | O | Transparency digital output. (Not used) |
| 35 | TRANS3 | O | Transparency digital output. (Not used) |
| 36 | TRANS4 | O | Transparency digital output. (Not used) |
| 37 | TRANS5 | O | Transparency digital output. (Not used) |
| 38 | VSS2 | — | Composite video DAC GND pin. |
| 39 | VDD2 | — | Composite video DAC power supply pin. (Connected to +5V) |
| 40 | BIAS | O | Capacitor connecting pin for eliminating ripple. |
| 41 | VIDEO | O | Composite video output pin (8-bit DAC output). |
| 42 | TEST | I | Test pin. Set to "L" normally. (Connected to GND) |
| 43 | LINE | I | When NP2 pin is "H": H: 263H L: 262H<br>When NP2 pin is "L": H: 312H L: 314H (Not used) |
| 44 | FSCIN | I | Subcarrier clock input pin. (feedback resistor is built in) (Connected to GND) |
| 45 | VSYNC | O | Vertical sync signal output pin. (Not used) |
| 46 | TEST1 | I | Test pin. Set to "L" normally. (Connected to GND) |
| 47 | YS | O | Superimpose control output. (Not used) |
| 48 | $\overline{\text{CSTNC}}$ | O | Composite sync signal output. (Not used) |
| 49 | GND | — | GND. |
| 50 | EFLG | O | Error status monitor pin. (Not used) |
| 51 | FSX | O | For error status monitor trigger. (Not used) |
| 52 | DEN | I | Disk information display enable. H: BGC L: Enable (Connected to GND) |
| 53 | PALID | I | External control pin when superimposing with PAL (pull-up resistor is built in).<br>(Not used) |
| 54 | VDD3 | — | Digital power supply (+5V) |
| 55 | FSC | O | Subcarrier clock output. NTSC mode: 3.579545 MHz<br>PAL mode: 4.433619 MHz (Not used) |
| 56 | VDD4 | — | Digital power supply (+5V) |
| 57 | $\overline{\text{RESET}}$ | I | Reset input pin. |
| 58 | N/$\overline{\text{P}}$1 | I | NTSC/PAL selection pin. (RGB encoder) "H": NTSC "L": PAL |
| 59 | N/$\overline{\text{P}}$2 | I | NTSC/PAL selection pin. (CD-G decoder) "H": NTSC "L": PAL |
| 60 | SON | I | Superimpose ON/OFF pin. (Connected to GND) |
| 61 | XIN2 | I | Crystal oscillator 17.734476 MHz. (for PAL) |
| 62 | XOUT2 | O | Crystal oscillator 17.734476 MHz. (for PAL) |
| 63 | XIN1 | I | Crystal oscillator connection 14.31818 MHz. (for NTSC) |
| 64 | XOUT1 | O | Crystal oscillator connection 14.31818 MHz. (for NTSC) |

# IC BLOCK DIAGRAM

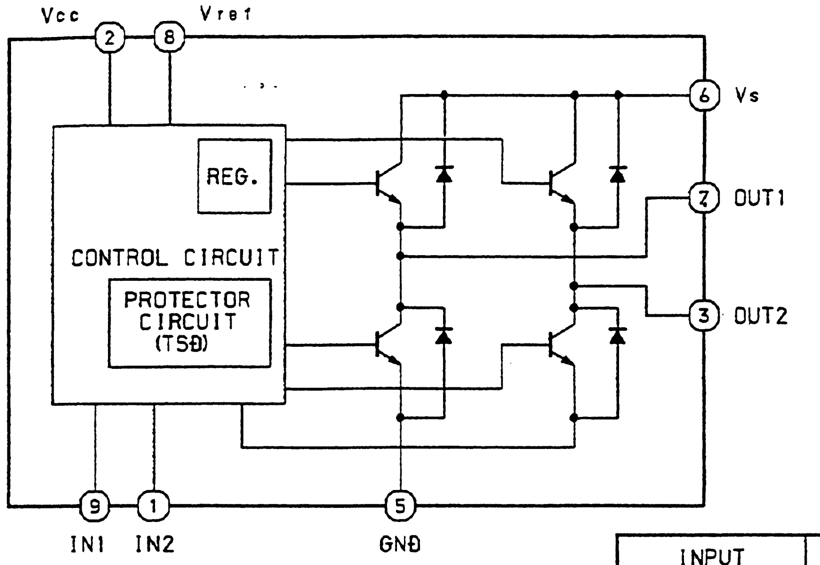
## IC, LC3246P


RAS 5
CLOCK GENERATOR NO.1
CAS 16
CLOCK GENERATER NO.2
MODE CONTROLER
REFRESH COUNTER
LOW DECORDER
(256)
26214 BET MEMORY SEL
CLOCK GENERATOR NO.3
9 Vcc
18 Vss
4 WE
2 1/01
3 1/02
15 1/03
17 1/04
1 OE
A0 14
A1 13
A2 12
A3 11
A4 8
A5 7
A6 6
A7 10
LOW ADDRESS BUFFER
(256X4)
SENSEAMP I/O GATE
DATA IN BUFFER
DATA OUT BUFFER
(256X4)
CARAM ADDRESS BUFFER
CARAME DECORDER PRE DECORDER
P.C.B BIAS GENERATOR

## IC, TA2058F


SVCC 1
IN 1 2
PVCC 1 3
OUT 1P 4
OUTIN 5
PW GND
FIN 1
OUT 2N 6
OUT 2P 7
PVCC 2 8
IN 2 9
VR1 10
VR
VC
20 SGND
19 IN 3
18 PVCC 3
17 OUT 3P
16 OUT 3N
FIN 2
PW GND
15 OUT 4N
14 OUT 4P
13 PVCC 4
12 IN 4
11 VC1
+
-

## IC, TA7291S


Vcc
Vref
2
8
REG.
CONTROL CIRCUIT
PROTECTOR CIRCUIT (TSD)
6 Vs
7 OUT1
3 OUT2
9
1
5
IN1
IN2
GND

| INPUT | | OUTPUT | | MODE |
|---|---|---|---|---|
| IN1 | IN2 | OUT1 | OUT2 | |
| 0 | 0 | ∞ | ∞ | STOP |
| 1 | 0 | H | L | CW |
| 0 | 1 | L | H | CCW |
| 1 | 1 | L | L | BRAKE |

∞ : HI IMPEDANCE
NOTE : INPUT "H" ACTIVE

# TEST MODE

1. CDテストモードの起動方法

ファンクションCDの釦を押しながら、ACプラグを挿入する。
上記によりFL表示管が全て点灯し、テストモードが起動します。

2. CDテストモードの解除方法

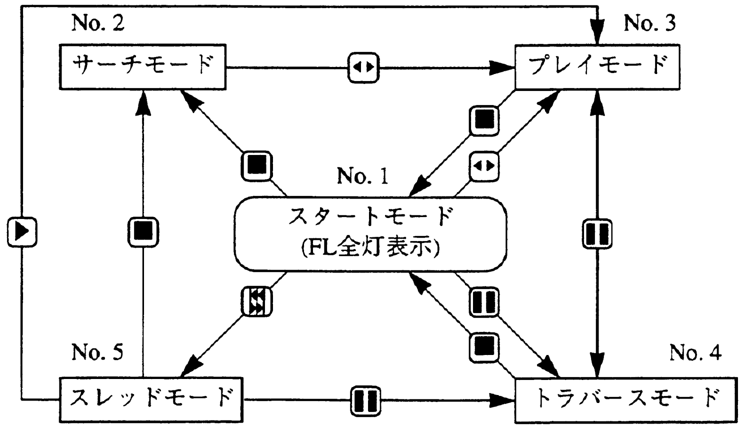
下記のいずれか1つの操作で解除します。
ファンクション釦を押す　・パワーSW釦を押す。
(CDファンクション釦以外)　・ACプラグを抜く。

3. CDテストモードの機能説明
テストモード起動後、各操作釦を押す事により次のNo1～No5の各モード機能が使用できます。

| Mode/No. | 操作 | FL表示 | 動作 | 内容 |
|---|---|---|---|---|
| スタートモード<br>No.1 | 起動 | 全灯表示 | ● TEST MODE起動<br>● LASER DIODE常時発光<br>(CDブロック電源ON) | ● FL表示確認 (全灯)<br>● APC回路確認<br>● レーザー電流測定<br>(レーザー電流コントロール、トランジスタのエミッターGND間の抵抗の両端。) |
| サーチモード<br>No.2 | ■ 釦 | C0-- | ● 連続フォーカスサーチ<br>(PUレンズがフルスイングを繰り返す)<br>* 10分以上の連続フォーカスは避けて下さい。 *注1 | FOCUS SERVO<br>● フォーカスラッチ波形確認<br>● フォーカスエラー波形確認<br>(サーチモードではFOK/FZCは監視せず。) |
| プレイモード<br>No.3 | ◀▶ 釦 | C0 1 | ● 通常再生<br>● TOC READ出来ない場合<br>フォーカスサーチを続行 *注1 | FOCUS SERVO/TRACKING SERVO<br>CLV SERVO/SLED SERVO<br>FOK/FZC確認 |
| トラバースモード<br>No.4 | ▮▮ 釦 | C0 1 | ● DISC通常再生中<br>1回押す トラッキングサーボ OFF<br>2回押す トラッキングサーボ ON<br>*注2 | TRACKING SERVO ON/OFF<br>トラッキングバランス (トラバース) 調整 |
| スレッドモード<br>No.5 | ⏮ 釦<br>⏭ | 全灯表示 | ● ピックアップ外周へ移動<br>● ピックアップ内周へ移動<br>*注3<br>(再生中は通常動作致します) | SLED SERVO<br>SLED メカ動作確認 |

*注1 フォーカスサーチを連続して10分以上動作し続けるとドライバーICが発熱し保護回路が働く為、トラッキングサーボがかからない状態となる場合が有ります。この様な場合には、電源を切り約10分間放熱後、再スタートして下さい。
*注2 「▮▮」状態で、「⏮」または「⏭」釦を押さない事。「▮▮」状態解除後、再生出来なくなります。「▮▮」状態で、「⏮」または「⏭」釦を押した場合には「■」釦を押しスタートモード (No.1) に戻して下さい。
*注3 ピックアップが最内周、最外周の位置でも「⏮」または「⏭」釦を押している間はスレッドモータが回転する為、ギヤ破損に注意して下さい。

4. 操作概要
下図の様にスタートモードから、矢印方向の流れで各モードの操作が行えます。モード変更は、下図の流れに従い行って下さい。



尚、DISC DIRECT PLAY釦を押した場合には、上図のPLAY釦を押した時と同様の動作となります。またプレイモード／トラバースモード時にopen/close釦により、トレイをopenさせた場合には、スタートモードに戻ります。

1. How to Activate CD Test Mode
Insert the AC plug while pressing the function CD button.
All FL display tubes will light up, and the test mode will be activated.

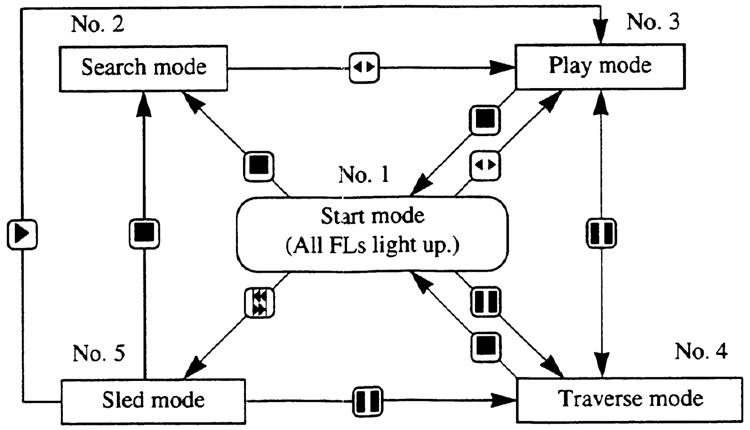
2. How to Cancel CD Test Mode
Either one of the following operations will cancel the CD test mode.
- Press the function button. (except CD function button)
- Press the power switch button.
- Disconnect the AC plug

3. CD Test Mode Functions
When test mode is activated, the following mode functions from No.1 to No.5 can be used by pressing the operation keys.

| Mode/No. | Operation | FL display | Operation | Contents |
|---|---|---|---|---|
| Start mode<br>No.1 | Activation | All lamps light | ● Test mode is activated.<br>● Laser diode turns always ON.<br>(CD block power is ON.) | ● FL display check (All displays light.)<br>● APC circuit check<br>● Laser current measurement<br>(Laser current control. Across a resistor connected between emitter and GND.) |
| Search mode<br>No.2 | ■ key | C0-- | ● Continual focus search<br>(The pickup lens repeats the full-swing up-down motion.)<br>* Avoid continual searches that last for more than 10 minutes. * NOTE 1 | FOCUS SERVO<br>● Check focus search waveform<br>● Check focus error waveform<br>(FOK/FZC are not monitored in the search mode) |
| Play mode<br>No.3 | ◀▶ key | C0 1 | ● Normal playback<br>● Focus search is continued if TOC cannot be read. * NOTE 1 | FOCUS SERVO/TRACKING SERVO<br>CLV SERVO/SLED SERVO<br>Check FOK/FZC |
| Traverse mode<br>No.4 | ▮▮ key | C0 1 | ● During normal disc playback<br>Press once; tracking servo OFF<br>Press twice; tracking servo ON<br>* NOTE 2 | TRACKING SERVO ON/OFF<br>Tracking balance (traverse) adjustment |
| Sled mode<br>No.5 | ⏮ key<br>⏭ | All lamps light | ● Pickup moves to the outermost track<br>● Pickup moves to the innermost track<br>* NOTE 3<br>(During playback, machine operates normally.) | SLED SERVO<br>Check SLED mechanism operation |

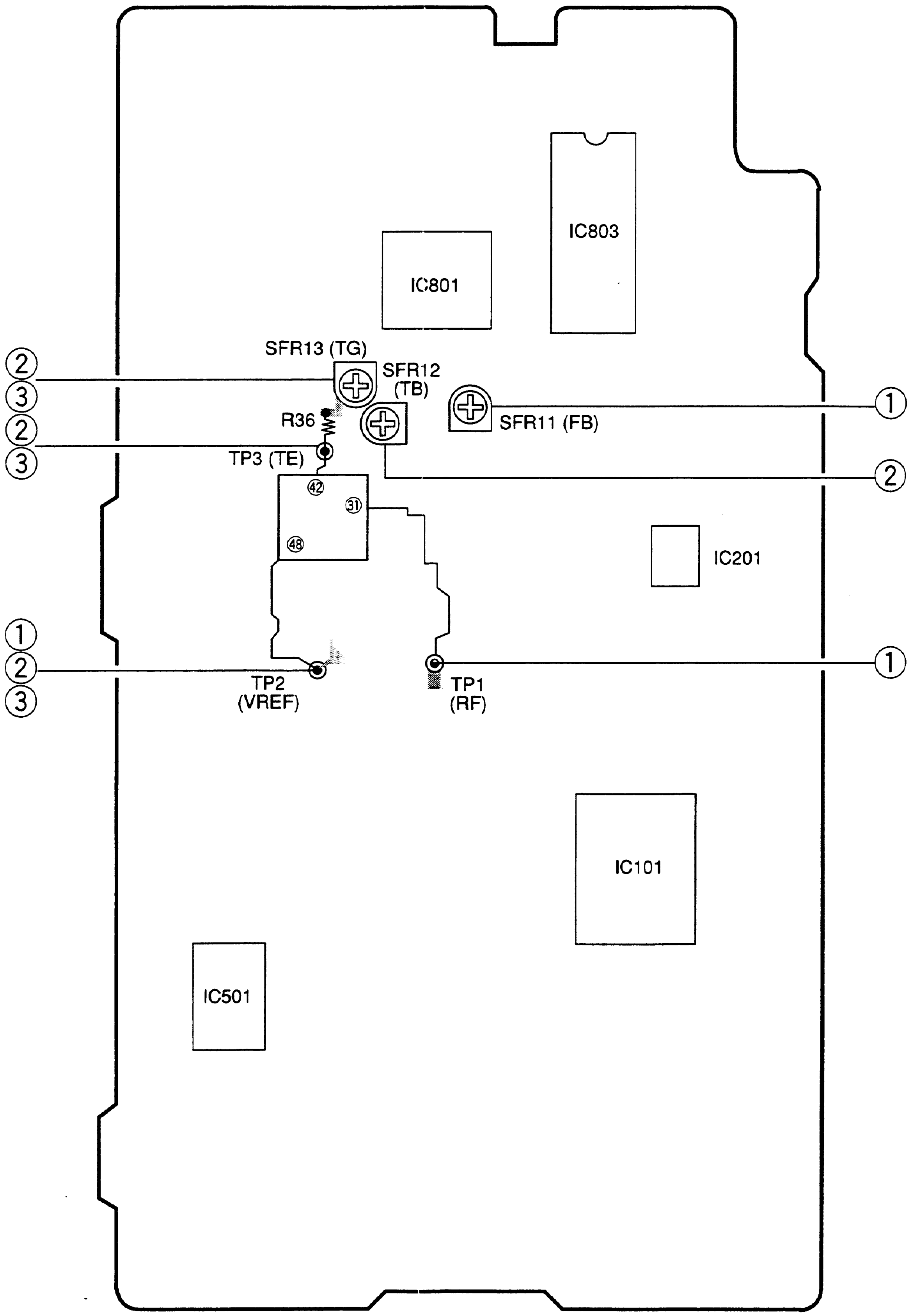
* NOTE 1: There are cases when the tracking servo cannot be locked owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.
* NOTE 2: Do not press the ⏮ or ⏭ keys when the machine is in the ▮▮ status is active. If they are pressed, playback will not be possible after the ▮▮ status has been canceled. If the ⏮ or ⏭ keys are pressed in the ▮▮ status, press the ■ key and return to the start mode (No.1).
* NOTE 3: When pressing the ⏮ or ⏭ keys, take care to avoid damage to the gears. Because the sled motor is activated when the ⏮ or ⏭ keys are pressed, even when the pick-up is at the outermost or innermost track.

4. Operation Outline
The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.



If the DISC DIRECT PLAY button is pressed, the machine performs the same operation as the PLAY button is pressed as shown. If the tray is opened by pressing OPEN/CLOSE button during Play mode or Traverse mode, the machine returns to the Start mode.

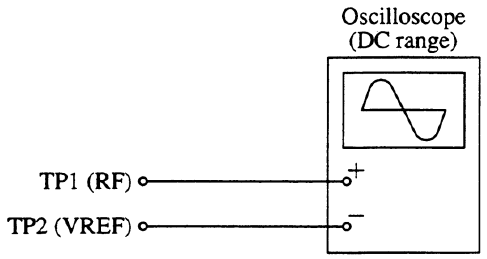
## A 3CD C.B


IC803
IC801
SFR13 (TG)
SFR12
(TB)
R36
TP3 (TE)
SFR11 (FB)
42
31
48
IC201
TP2
(VREF)
TP1
(RF)
IC101
IC501
②
③
②
③
①
②
③
①
②
①

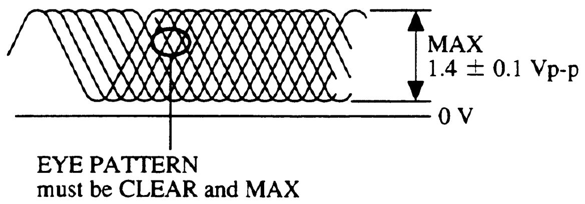
注意:
- (10: 1) のプローブを接続して、調整して下さい。
- 各調整には、オシロスコープの⊖側をTP2 (VREF)に接続して下さい。

1. フォーカスバイアス調整

この調整は、光学系ブロックを交換修理した場合に調整すること。

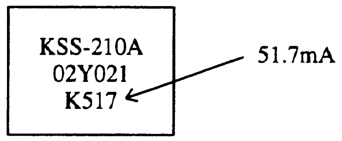

Oscilloscope
(DC range)
TP1 (RF)
TP2 (VREF)
+
−

1) テストポイントTP1 (RF) 、TP2 (VREF) にオシロスコープを接続する。
2) POWERスイッチをONにする。
3) テストディスクTCD-782 (YEDS-18) を入れて2曲目をPLAYさせる。
4) オシロスコープの波形の振幅が最大となり、かつ中央のひし形が、鮮明になるようにSFR11を調整する。


MAX
1.4 ± 0.1 Vp-p
0 V
EYE PATTERN
must be CLEAR and MAX

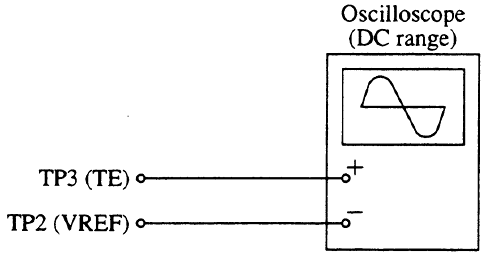
VOLT/DIV : 0.5V
TIME/DIV : 1 μ S

(注) レーザー電流の確認はR28 (10Ωの両端電圧) で行えます。レーザーピックアップの裏側のラベルの電流値に対して±6.0mAに入っていること。

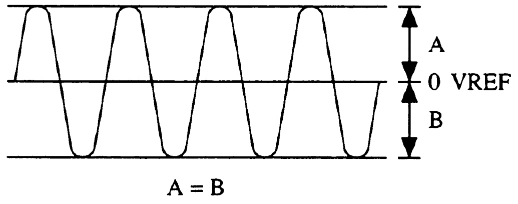

KSS-210A
02Y021
K517
51.7mA

$$\text{レーザー電流Iop} = \frac{\text{R28の両端電圧}}{10\Omega}$$

2. トラッキング・バランス調整


Oscilloscope
(DC range)
TP3 (TE)
TP2 (VREF)
+
−

1) テストポイントTP3 (TE)、TP2 (VREF) にオシロスコープを接続する。
2) POWERスイッチをONにする。
3) テストディスクTCD-782 (YEDS-18) を入れて、▶PLAY状態にする。
4) SFR13の中点をTP2 (VREF) におとす。
5) オシロスコープのトラバース波形が、下図のように上下対称になるようにSFR12を調整する。
6) 調整後、各端子のアースリード線をはずす。



VOLT/DIV : 200mV
TIME/DIV : 1mS

3. トラッキングゲイン調整

この調整を正確に行うためには、サーボアナライザーが必要です。しかし、このゲインはマージンを持っているため、通常では少し位ずれていてもほとんど問題はありません。したがってこの調整は行わないで下さい。フォーカス/トラッキングゲインは2軸デバイス動作時の機械的雑音と機械的ショックに対するピックアップの追従性を決めています。しかし、これは互いに相反するため、両方を満足する点に調整してあります。

- ● ゲインを上げると2軸デバイス動作時の雑音が増加する。
- ● ゲインを下げると機械的ショックに弱くなり音飛びを起こしやすくなる。

そしてゲインの調整がずれていると次頁の様な症状が出ます。

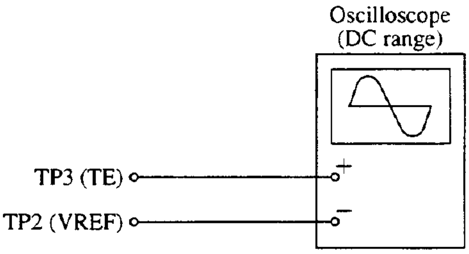
| ゲイン<br>症状 | (フォーカス) | トラッキング |
|---|---|---|
| ● STOP→▶PLAY時, 又は自動選曲時 (⏮, ⏭ボタンを押したとき) に演奏が始まるまでの時間が長くなる。<br>(通常は2秒位です。) | 低い | 低い<br>又は<br>高い |
| ● STOP→▶PLAY時, 又は自動選曲時 (⏮, ⏭ボタンを押したとき) に演奏が始まらないでディスクが回転を続ける。 | —— | 低い |
| ● STOP→▶PLAY時, しばらくすると回転が止まる。 | 低い又は高い | —— |
| ● 演奏中に音がとぎれる。又, タイムカウンターの表示が進まなくなる。 | —— | 低い |
| ● 2軸ディバイス動作時のノイズが多くなる。 | 高い | 高い |

なお、簡易調整として下記の方法があります。

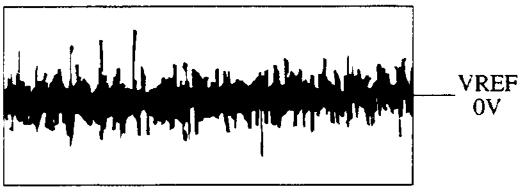
—— 簡易調整 ——

注意: 正確には調整できないため、調整を行う前にボリュームの位置を憶えておいて、簡易調整を行った後のボリュームの位置と比較して、そのずれが少ないときは元のボリュームの位置に戻しておいて下さい。

調整方法:



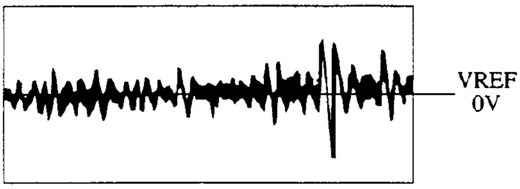
1. セットを水平に置く。
   (セットを水平に置かないと2軸デバイスが重力の影響を受け、調整出来ません。)
2. テストディスクTCD-782 (YEDS-18) を入れて2曲目を再生する。
3. オシロスコープを3CD基板のTP3 (TE)、TP2 (VREF) に接続する。
4. オシロスコープの波形が下図の波形になるようにSFR13を調整する。(トラッキングゲイン調整)



VOLT/DIV : 50mV
TIME/DIV : 1mS

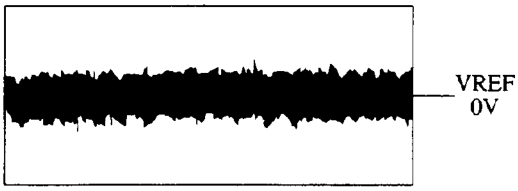
● 悪い例

トラッキングゲインが低い時
(調整されている波形と比べて基本波が表れるようになる。)



VOLT/DIV : 50mV
TIME/DIV : 1mS

トラッキングゲインが高い時
(ゲインが低い時と比べて基本波が高い)

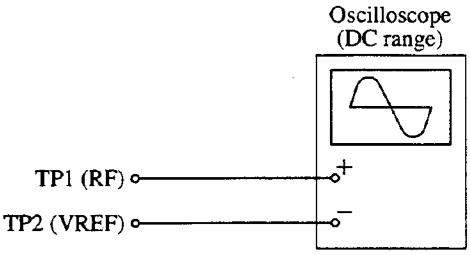


VOLT/DIV : 50mV
TIME/DIV : 1mS

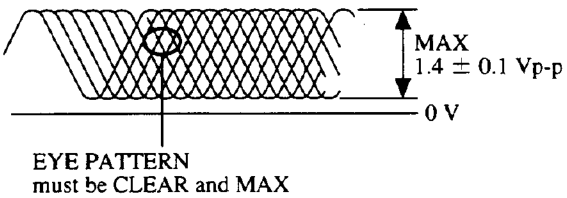
Note: Connect a probe (10: 1) of the oscilloscope or the frequency counter to a test point.

1. Focus Bias Adjustment

Make the focus bias adjustment when replacing and repairing the optical block.

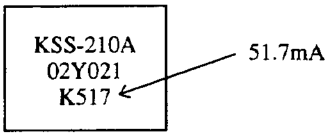


1) Connect an oscilloscope to test points TP1 (RF) and TP2 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
4) Adjust SFR11 so that RF signal of test point TP1 (RF) is MAX and CLEARREST.



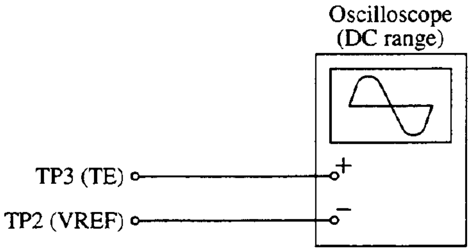
VOLT/DIV : 0.5 V
TIME/DIV : 1µS

Note: The current of the laser signal can be checked with the voltages on both sides of R28 (10Ω). The difference for the specified value shown on the lavel must be within ± 6.0mA.

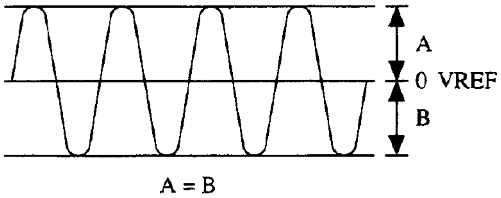


$$\text{Laser current Iop} = \frac{\text{Voltage across R28}}{10\Omega}$$

2. Tracking Balance Adjustment



1) Connect an oscilloscope to test points TP3 (TE) and TP2 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and press the PLAY button.
4) Connect the intermediate point of SFR13 to TP2 (VREF).
5) Adjust SFR12 so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.
6) After the adjustment is completed, remove the connected lead wires from the terminals.



VOLT/DIV : 200mV
TIME/DIV : 1mS

3. Tracking Gain Adjustment

A servo analyzer is necessary in order to perform this adjustment exactly. However, this gain has a margin, so even if it is slightly off, there is no problem. Therfore, do not perform this adjustment.
Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when 2-axis device operates. However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise increases when the 2-axis device operates.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.

When the gain adjustment is off, the symptoms below appear.

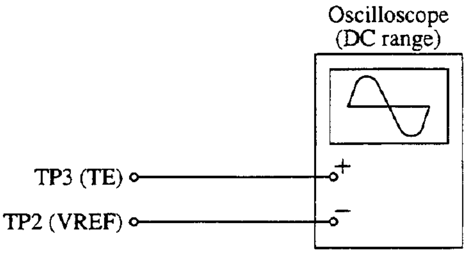
| Gain / Symptoms | (Focus) | Tracking |
|---|---|---|
| ● The time until music starts becomes longer for STOP→ ▶ PLAY or automatic selection (⏮, ⏭ buttons pressed.) (Normally takes about 2 seconds.) | low | low or high |
| ● Music does not start and disc continues to rotate for STOP → ▶ PLAY or automatic selection (⏮, ⏭ buttons pressed.) | — | low |
| ● Disc stops to rotate shortly after STOP→ ▶ PLAY. | low or high | — |
| ● Sound is interrupted during PLAY. Or time counter display stops. | — | low |
| ● More noises during the 2-axis device operation. | high | high |

The following is simple adjustment method.

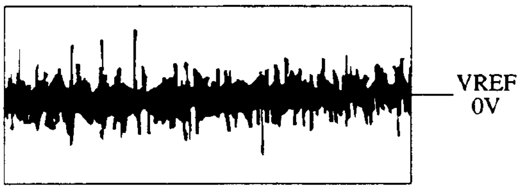
— Simple adjustment —

Note: Since the exact adjustment cannot be performed, remember the positions of the controls before the performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

Procedure:



1) Keep the set horizontal. (If the set is not kept horizontally, this adjustment cannot be performed due to the gravity against the 2-axis device.)
2) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
3) Connect an oscilloscope to TP3 (TE), TP2 (VREF) of the CD C.B.
4) Adjust SFR13 so that the waveform appears as shown in the figure below. (tracking gain adjustment)

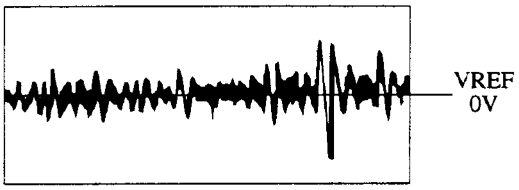


VOLT/DIV: 50 mV
TIME/DIV: 1 mS

- Incorrect example

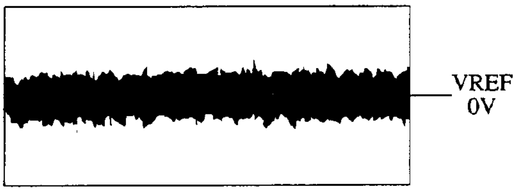
Low tracking gain

The fundamental wave appears as compared with the waveform adjusted.



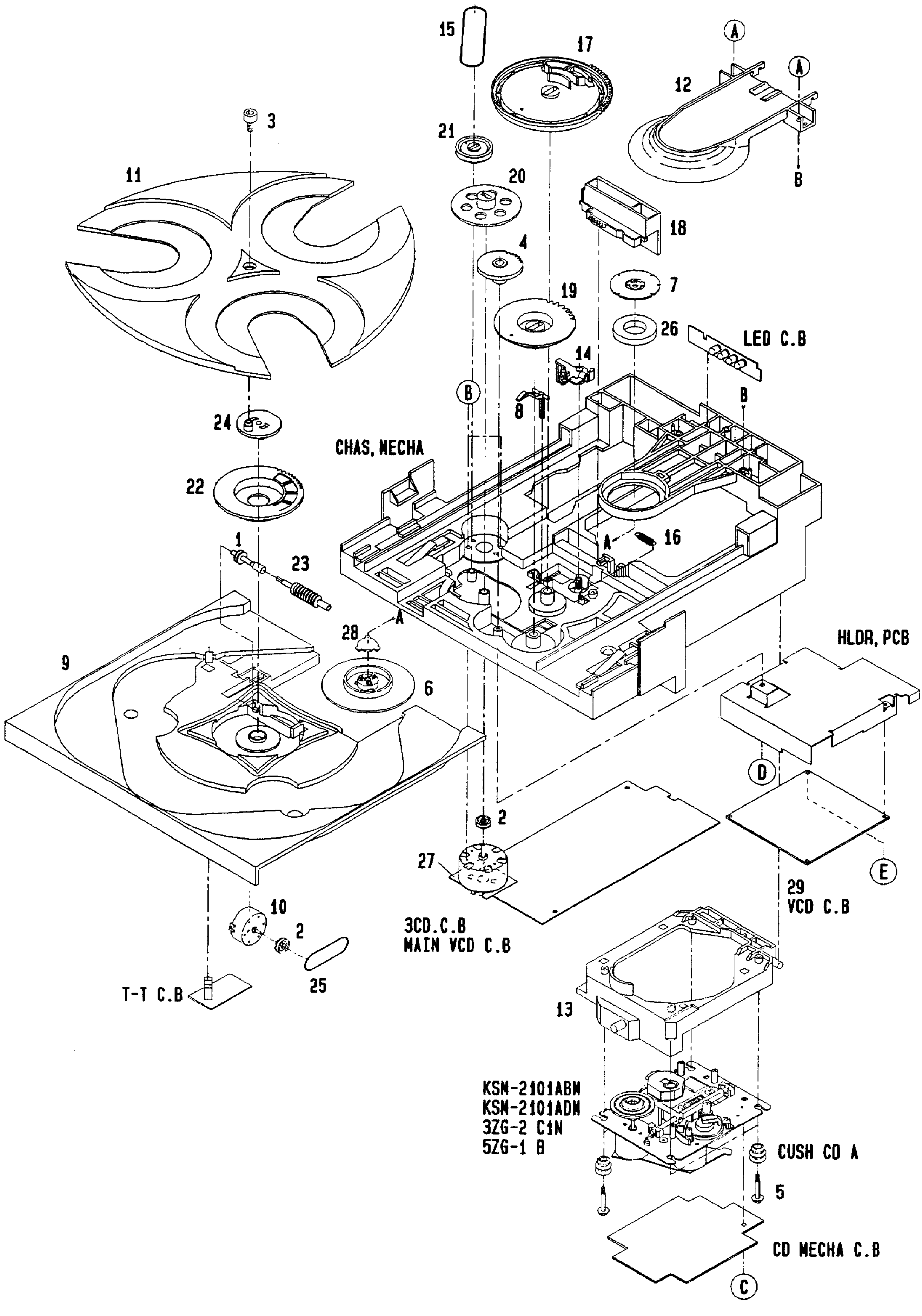
VOLT/DIV: 50 mV
TIME/DIV: 1 mS

High tracking gain
The frequency of the fundamental wave is higher than that in low gain.



VOLT/DIV: 50 mV
TIME/DIV: 1 mS

# MECHANICAL EXPLODED VIEW 1 / 1

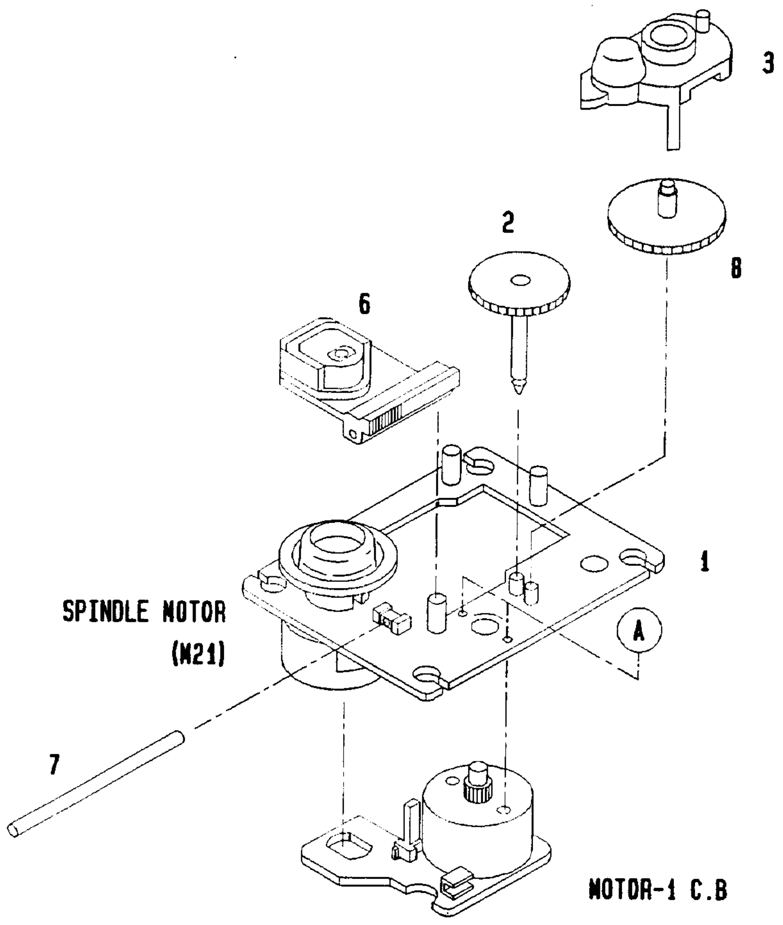

15
17
Ⓐ
Ⓐ
12
B
3
11
21
20
18
4
7
19
26
LED C.B
14
Ⓑ
8
B
24
CHAS, MECHA
22
A
16
1
23
28
A
HLDR, PCB
9
6
Ⓓ
2
27
Ⓔ
29
VCD C.B
10
2
3CD.C.B
MAIN VCD C.B
25
T-T C.B
13
KSN-2101ABM
KSN-2101ADM
3ZG-2 C1N
5ZG-1 B
CUSH CD A
5
CD MECHA C.B
Ⓒ

# MECHANICAL PARTS LIST 1／1

DESCRIPTIONで判断できない物は “REFERENCE NAME LIST” を参照してください。
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 84-ZG1-239-010 | 0E | PULLY,WORM N |
| 2 | 81-ZG1-212-010 | 0E | PULLY,LOAD MO |
| 3 | 81-ZG1-239-010 | 0E | S-SCREW,TT |
| 4 | 81-ZG1-291-019 | 0E | GEAR,TRAY RELAY NO3 |
| 5 | 84-ZG1-240-010 | 0E | S-SCREW,MECH REAR 2<EXCEPT CR> |
| 5 | 85-XC2-224-010 | 0E | S-SCREW,CD<CR> |
| 6 | 81-ZG1-277-219 | 1A | HLDR,MAGNET N<EXCEPT G,R,CR> |
| 6 | 85-XC2-213-010 | 0E | HLDR,DISC A<CR> |
| 6 | 81-ZG1-228-210 | 1A | HLDR,MAGNET<G,R> |
| 7 | 81-ZG1-255-119 | 0E | PLATE,MAGNET MK2<EXCEPT VI,CR> |
| 7 | 85-XC2-214-010 | 0E | HLDR,DISC B<CR> |
| 7 | 81-ZG1-229-110 | 0E | PLATE,MAGNET<VI> |
| 8 | 83-ZG3-213-019 | 0E | LVR,SW |
| 9 | 84-ZG1-007-019 | 1D | TRAY,NO<CR> |
| 9 | 84-ZG1-004-019 | 1F | TRAY,NO2<EXCEPT R,CR> |
| 9 | 84-ZG1-003-019 | 1D | TRAY,NO2-B<R> |
| 10 | 87-045-364-019 | 1D | MOTOR,(BCH3B14) |
| 11 | 84-ZG1-005-119 | 1C | TURNTABLE,NO1<EXCEPT CR> |
| 11 | 84-XC1-024-010 | 1H | TURNTABLE,NO2<CR> |
| 12 | 84-ZG1-010-019 | 1B | IND,CD N<EXCEPT VI,CR> |
| 13 | 84-ZG1-212-119 | 1A | HLDR,MECHA NO2<EXCEPT CR> |
| 13 | 84-XC1-219-010 | 1C | HLDR,MECHA-R<CR> |
| 14 | 84-ZG1-208-019 | 0E | LEVER,CAM |
| 15 | 84-ZG1-209-010 | 0E | BELT,SQ1.8-117.7 |
| 16 | 84-ZG1-211-019 | 0E | SPR-E CAM S |
| 17 | 84-ZG1-215-119 | 1B | GEAR,MAIN CAM BLU |
| 18 | 84-ZG1-216-219 | 1A | SLIDE,MECHA CAM YEL |
| 19 | 84-ZG1-205-119 | 1A | GEAR,TRAY |
| 20 | 84-ZG1-206-119 | 0E | GEAR,RELAY |
| 21 | 84-ZG1-219-01K | 0E | PULLY,RELAY BGE |
| 22 | 84-ZG1-221-019 | 1A | GEAR,MAIN TT |
| 23 | 84-ZG1-238-010 | 1A | GEAR,WORM N |
| 24 | 84-ZG1-224-019 | 0E | LEVER,TT |
| 25 | 84-ZG1-225-010 | 0E | BELT,SQ1.0-63.3 |
| 26 | 87-036-326-010 | 1A | MAGNET,CLAMPER 93<G,D,F,FJ,R,V> |
| 26 | 83-ZG3-602-010 | 1A | RING,MAG<VI,V2,V3> |
| 27 | 84-ZG1-231-019 | 0E | SHILD CORE,MOT S<EXCEPT VI,CR> |
| 28 | 85-XC2-215-010 | 0E | PLATE,MAGNET<CR> |
| 29 | 85-NFT-617-010 | -- | MPEG MODULE NTSC<V2> |
| A | 87-067-703-010 | 0E | BVT2+3-10 W/0 SLOT<EXCEPT VI,CR> |
| B | 87-251-070-419 | 0E | U+2.6-3 |
| C | 87-342-036-210 | 0E | UT2+2-8<V2,V3> |
| D | 87-067-579-019 | 0E | BVT2+3-8W/O SLOT<V2,V3> |
| E | 81-557-598-010 | 0E | UTT+2-5 C-TITE<V2,V3> |

## CD MECHANISM EXPLODED VIEW 1 ／ 1 (KSM-2101ADM <G, D, F, FJ, R, V>)

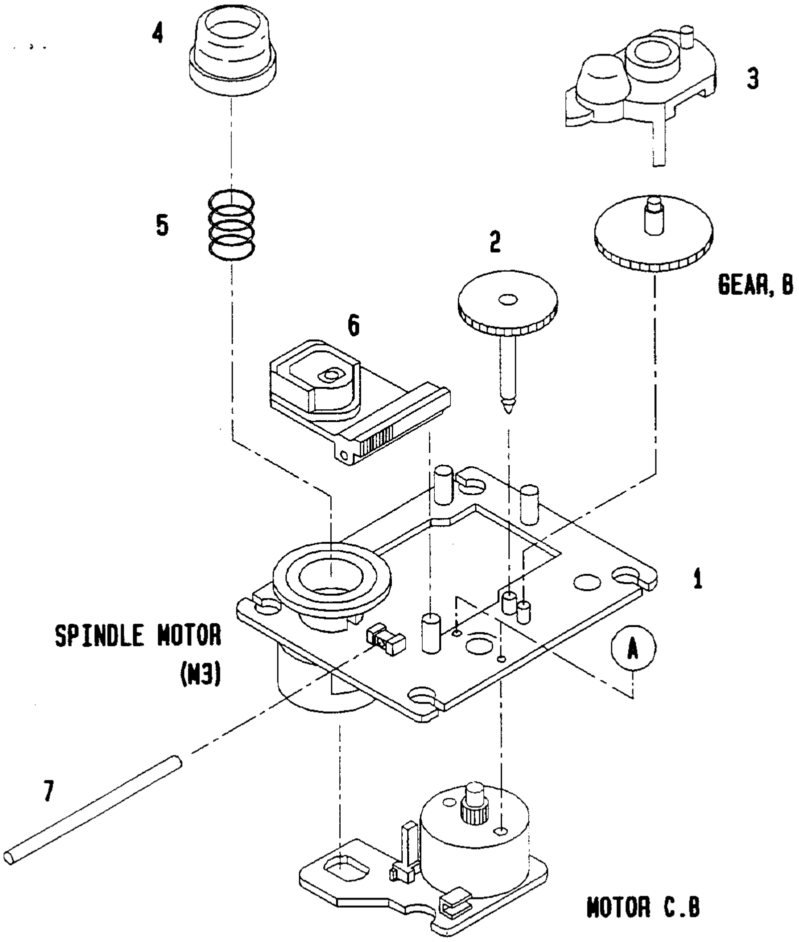


## CD MECHANISM PARTS LIST 1 ／ 1 (KSM-2101ADM <G, D, F, FJ, R, V>)

DESCRIPTIONで判断できない物は “REFERENCE NAME LIST” を参照してください。
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 9X-262-587-110 | -- | MOTOR CHASSIS ASSY |
| 2 | 92-625-188-020 | 1C | GEAR(A) |
| 3 | 92-625-544-010 | 1F | COVER |
| 6 | 98-848-127-110 | 2G | OPTICAL PICK UP KSS-210A |
| 7 | 92-626-908-010 | 2A | SHAFT SLED |
| 8 | 92-626-081-010 | 1C | GEAR B |
| A | 87-261-032-210 | 0E | V+2-3 |

# CD MECHANISM EXPLODED VIEW 1 ／ 1 (KSM-2101ABM <VI>)

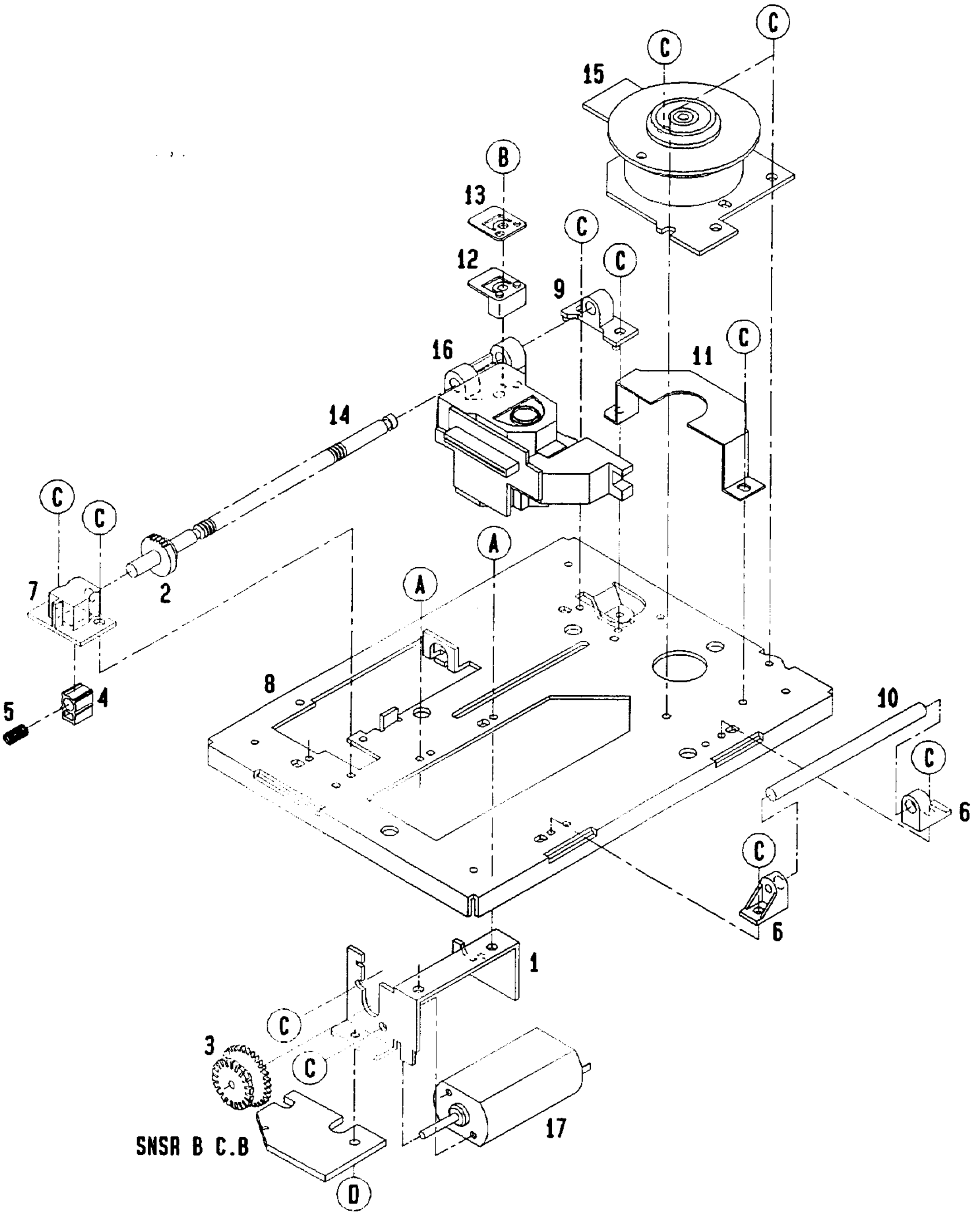


# CD MECHANISM PARTS LIST 1 ／ 1 (KSM-2101ABM <VI>)

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION | REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|---|---|---|---|
| 1 | 9X-262-513-310 | 2C | T.T CHASS ASSY W/MOTOR | 6 | 98-848-127-110 | 2G | OPTICAL PICK UP KSS-210A |
| 2 | 92-625-188-020 | 1C | GEAR(A) | 7 | 94-917-565-010 | 2M | SHAFT SLED |
| 3 | 92-625-544-010 | 1F | COVER | A | 87-261-032-210 | 0E | V+2-3 |
| 4 | 92-625-187-010 | 1B | RING CENTER | | | | |
| 5 | 92-625-191-010 | 1B | SPRING COMPRESSION | | | | |

## CD MECHANISM EXPLODED VIEW 1 ／ 1 (5ZG-1B <CR>)



## CD MECHANISM PARTS LIST 1 ／ 1 (5ZG-1B <CR>)

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 84-XC1-220-010 | 1A | HLDR,MTR |
| 2 | 85-ZG1-208-010 | 0E | GEAR,SHAFT |
| 3 | 85-ZG1-210-010 | 0E | GEAR,MOTOR |
| 4 | 85-ZG1-217-010 | 0E | COLLAR,THRUST |
| 5 | 85-ZG1-218-010 | 0E | SPR-C,THRUST |
| 6 | 85-ZG1-250-010 | 0E | HLDR,SHAFT |
| 7 | 85-ZG1-251-010 | 0E | HLDR,GUIDE RE |
| 8 | 85-ZG1-252-010 | 1B | CHAS |
| 9 | 85-ZG1-254-010 | 0E | HLDR,GUIDE FR |
| 10 | 85-ZG1-255-010 | 1A | SHAFT |
| 11 | 85-ZG1-257-010 | 0E | PLATE,MOTOR |
| 12 | 85-ZG1-258-010 | 0E | RACK |
| 13 | 85-ZG1-259-010 | 0E | SPR-P,RACK |
| 14 | 85-ZG1-263-010 | 1E | SHAFT,SLED |
| 15 | 85-ZG1-614-010 | 2B | MOT,SP |
| 16 | 85-ZG1-615-010 | 2E | PICK UP UNIT,KSS500A |
| 17 | 85-ZG1-616-010 | 1H | MOT,FF-050SH-11190 |
| A | 87-265-544-310 | 0E | V+2-2.2 NI |
| B | 87-268-533-310 | 0E | V+1.7-6 F-ZN |
| C | 87-268-547-310 | 0E | V+2-3 |
| D | 87-571-033-410 | 0E | VIT+2-4 |

# 4ZG-1<G, D, F, R, V2, V3>

4ZG-1<G, D, F, FJ, R, V, VI, CR>と共通部分は、下記のページを参照して下さい。
Refer to the following pages for the 4ZG-1<G, D, F, FJ, R, V, VI and CR> and the common sections.

## ■ IC DESCRIPTION

| | |
|---|---|
| CXA1782BQ | 17ページ参照 |
| | See Page 23 |
| LC7872E | 21ページ参照 |
| | See Page 27 |

## ■ IC BLOCK DIAGRAM

| | |
|---|---|
| LC32464P-80 | 29ページ参照 |
| | See Page 29 |

## ■ MECHANICAL EXPLODED VIEW 1／1

38ページを参照して下さい。
See Page 38.

## ■ MECHANICAL PARTS LIST 1／1

39ページを参照して下さい。
See Page 39.

## ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は"REFERENCE NAME LIST"を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

| REF. NO. | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| IC | | | |
| | 87-017-745-019 | 2A | IC,CXA1782BQ |
| | 87-002-783-110 | 2Y | IC,CXD2500BQ |
| | 87-070-120-049 | 1H | IC,BA6897 FP |
| | 87-070-429-019 | 1C | IC,NJM2244L |
| | 87-017-825-019 | 1E | IC,GP1F32T<D> |
| | 85-NFT-614-010 | 2M | IC,UPD78044BGF-021 |
| | 87-070-430-019 | 1D | IC,LA6530 |
| | 87-020-881-089 | 1A | IC,NJM78L05A |
| | 87-017-888-089 | 1A | IC,NJM4558MD |
| | 87-017-802-010 | 2Y | IC,LC7872E<G> |
| | 87-017-803-010 | 2A | IC,LC32464P-80<G> |
| | S4-730-42X-010 | 3M | IC,HD6473042F16(5EULF6)<V2,V3> |
| | SX-D11-86X-010 | 2D | IC,CXD1186CR(5EUNFC)<V2,V3> |
| | SC-008-K81-R10 | 2M | IC,BR6265AF-10LL(5EUMFS)<V2,V3> |
| | SC-032-K81-MA0 | 2B | IC,M5M5256CFP-70LL(5EUMFS)<V2,V3> |
| | 87-001-948-080 | 1B | IC,PST572CMT(5EUBFP)<V2,V3> |
| | SD-493-07X-010 | 2B | IC,HD49307(5EUNFH)<V2,V3> |
| | 82-NV1-628-080 | 1H | IC,CXA1645M(5EUBFC)<V2,V3> |
| | SP-D63-210-010 | 2P | IC,UPD63210GT-E1(5EUNFU)<V2,V3> |
| | S1-010-XXX-010 | 3M | IC,UPD61010AGD-LBD(5EULF6)<V2,V3> |
| | SC-170-CXX-010 | 2D | IC,TC170C100AF-001(5EUKFT)<V2,V3> |
| | SC-256-KG1-T10 | | IC,TC514260BJ-70(5EULMD)<V3> |
| | SC-000-002-000 | | IC,TC514260BJ-70(5EULMD)<V3> |
| | SC-000-001-000 | 2H | IC,TC514260BJ-70(5EULMD)<V2> |
| | SL-C29-32X-010 | 2M | IC,TLC2932IPW(5EUNFT)<V2,V3> |
| TRANSISTOR | | | |
| | SC-408-1XX-010 | 1B | TR,2SC4081(5EQQ2S)<V2,V3> |
| | S1-441-XXX-010 | 1B | TR,RN1441-A(5EQQRN)<V2,V3> |
| | SA-157-6XX-010 | 1B | TR,2SA1576(5EQQ2S)<V2,V3> |
| | 89-111-625-089 | 0E | C-TR,2SA1162GR |
| | 87-026-237-089 | 0E | C-TR,DTC124XK |
| | 89-213-702-019 | 1A | TR 2SB1370E |
| | 89-327-125-089 | 0E | C-TR,2SC2712GR |
| | 89-112-965-089 | 0E | TR,2SA1296GR |
| | 87-026-608-089 | 0E | C-TR,DTC 123 JK<F> |
| | 89-333-266-089 | 0E | C-TR,2SC3326B |
| | 87-026-580-089 | 0E | C-TR,DTA123JK |
| DIODE | | | |
| | S1-305-700-283 | 1C | DIODE,DA115(5EDQDD)<V2,V3> |
| | SA-P20-2UX-010 | 0E | DIODE,DAP202U(5EDQDD)<V2,V3> |
| | 87-002-608-089 | 0E | DIODE,DSF10TC |
| | 87-020-465-089 | 0E | DIODE,ISS133 |
| MAIN VCD C.B | | | |
| C101 | 87-012-140-089 | 0E | C-CAP,S 470P-50 CH |
| C102 | 87-010-194-089 | 0E | C-CAP,S 0.047-25 F |
| C103 | 87-010-178-089 | 0E | C-CAP,S 1000P-50 B |
| C104 | 87-012-156-089 | 0E | C-CAP,S 220P-50 CH |
| C105 | 87-010-263-089 | 0E | CAP,E 100-10 SME |
| C106 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C107 | 87-010-314-089 | 0E | C-CAP,S 22P-50 CH |
| C108 | 87-010-314-089 | 0E | C-CAP,S 22P-50 CH |
| C109 | 87-010-400-089 | 0E | CAP,E 0.47-50 SME |
| C110 | 87-010-221-089 | 0E | CAP,E 470-10 11L |
| C111 | 87-010-320-089 | 0E | C-CAP,S 68P-50 CH |
| C113 | 87-010-260-089 | 0E | CAP,E 47-25 SME |
| C114 | 87-010-498-049 | 0E | CAP,E 10-16 GAS |
| C115 | 87-010-498-049 | 0E | CAP,E 10-16 GAS<G> |
| C116 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C117 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C118 | 87-010-555-049 | 0E | CAP,E 100-10 GAS |
| C119 | 87-010-555-049 | 0E | CAP,E 100-10 GAS |
| C120 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C121 | 87-010-263-089 | 0E | CAP,E 100-10 SME |
| C122 | 87-010-320-089 | 0E | C-CAP,S 68P-50 CH<D> |
| C123 | 87-010-401-089 | 0E | CAP,E 1-50 SME |
| C124 | 87-A10-011-019 | ?? | CAP,E 2200-25 SMG |
| C125 | 87-010-322-089 | 0E | C-CAP,S 100P-50 CH |
| C126 | 87-010-178-089 | 0E | C-CAP,S 1000P-50 B |
| C127 | 87-010-314-089 | 0E | C-CAP,S 22P-50 CH<G> |
| C128 | 87-010-320-089 | 0E | C-CAP,S 68P-50 CH |
| C129 | 87-010-263-089 | 0E | CAP,E 100-10 SME<D> |
| C130 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<D> |
| C131 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C132 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C133 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C134 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C135 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C201 | 87-010-382-089 | 0E | CAP,E 22-25 SME |
| C202 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C203 | 87-010-382-089 | 0E | CAP,E 22-25 SME |
| C204 | 87-010-381-089 | 0E | CAP,E 330-16 SME |
| C205 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C206 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C207 | 87-010-498-049 | 0E | CAP,E 10-16 GAS<F> |
| C208 | 87-010-405-089 | 0E | CAP,E 10-50 SME |
| C301 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C306 | 87-010-381-089 | 0E | CAP,E 330-16 SME |
| C307 | 87-010-553-049 | 0E | CAP,E 47-16 GAS |
| C308 | 87-010-498-049 | 0E | CAP,E 10-16 GAS |
| C309 | 87-010-404-089 | 0E | CAP,E 4.7-50 SME |
| C310 | 87-010-404-089 | 0E | CAP,E 4.7-50 SME |
| C311 | 87-012-140-089 | 0E | C-CAP,S 470P-50 CH |
| C312 | 87-012-140-089 | 0E | C-CAP,S 470P-50 CH |
| C313 | 87-010-263-089 | 0E | CAP,E 100-10 SME |
| C315 | 87-010-404-089 | 0E | CAP,E 4.7-50 SME |
| C316 | 87-010-404-089 | 0E | CAP,E 4.7-50 SME |
| C317 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C318 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C401 | 87-010-405-089 | 0E | CAP,E 10-50 SME<G> |
| C402 | 87-010-314-089 | 0E | C-CAP,S 22P-50 CH<G,V3> |
| C403 | 87-010-315-089 | 0E | C-CAP,S 27P-50 CH<G,V3> |
| C404 | 87-010-314-089 | 0E | C-CAP,S 22P-50 CH<G,V2> |
| C405 | 87-010-315-089 | 0E | C-CAP,S 27P-50 CH<G,V2> |
| C406 | 87-010-263-089 | 0E | CAP,E 100-10 SME<G> |
| C407 | 87-010-263-089 | 0E | CAP,E 100-10 SME<G> |
| C408 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F<G> |
| C409 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F<G> |
| CN107 | 85-MAR-617-019 | -- | CABLE ASSY,6P-1.25 |
| EM101 | 87-008-474-089 | 0E | F-BEAD,EMI BL02RN1 |
| EM102 | 87-008-474-089 | 0E | F-BEAD,EMI BL02RN1 |
| FC1 | 85-NFT-612-019 | 1B | FF-CABLE,30P-1.0 |
| FC2 | 88-912-131-219 | 1A | FF-CABLE,12P 1.25 |
| FC3 | 85-NF5-617-019 | 1A | CABLE,FFC 6P-1.25 |
| J101 | 87-009-502-019 | 1A | JACK,PIN 1PY EARTH |
| L101 | 87-003-149-089 | 0E | COIL,47UH |
| L102 | 87-003-149-089 | 0E | COIL,47UH |
| L401 | 87-003-149-089 | 0E | COIL,47UH<G> |
| L402 | 87-003-149-089 | 0E | COIL,47UH<G> |
| M401 | 87-045-305-019 | 1E | MOTOR, RF-500TB |
| SW201 | 87-036-109-019 | 0E | SW,PUSH SPPB 61 |
| SW202 | 87-036-109-019 | 0E | SW,PUSH SPPB 61 |
| X101 | 87-030-270-089 | 1C | VIB,XTAL 16.9344MHZ |
| X201 | 89-MX1-704-089 | 1A | CERA LOCK(MU)3.9MHZ |
| X401 | 80-JUC-602-089 | 1C | VIB,XTAL 17.73MHZ<G,V3> |
| X402 | 80-JUC-601-089 | 1C | VIB,XTAL 14.31MHZ<G,V2> |
| CD MECHA C.B | | | |
| C101 | 87-010-154-089 | 0E | C-CAP,S 10P-50 CH |
| C102 | 87-010-184-089 | 0E | C-CAP,S 3300P-50 B |
| C103 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C104 | 87-010-193-089 | 0E | C-CAP,S 0.033-25 F |
| C105 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |

# ELECTRICAL MAIN PARTS LIST

DESCRIPTION で判断できない物は “REFERENCE NAME LIST” を参照してください。
If can’t understand for Description please kindly refer to “REFERENCE NAME LIST”.

| REF. NO. | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| IC | | | |
| | 87-017-745-019 | 2A | IC,CXA1782BQ |
| | 87-002-783-110 | 2Y | IC,CXD2500BQ |
| | 87-070-120-049 | 1H | IC,BA6897 FP |
| | 87-070-429-019 | 1C | IC,NJM2244L |
| | 87-017-825-019 | 1E | IC,GP1F32T<D> |
| | 85-NFT-614-010 | 2M | IC,UPD78044BGF-021 |
| | 87-070-430-019 | 1D | IC,LA6530 |
| | 87-020-881-089 | 1A | IC,NJM78L05A |
| | 87-017-888-089 | 1A | IC,NJM4558MD |
| | 87-017-802-010 | 2Y | IC,LC7872E<G> |
| | 87-017-803-010 | 2A | IC,LC32464P-80<G> |
| | S4-730-42X-010 | 3M | IC,HD6473042F16(5EULF6)<V2,V3> |
| | SX-D11-86X-010 | 2D | IC,CXD1186CR(5EUNFC)<V2,V3> |
| | SC-008-K81-R10 | 2M | IC,BR6265AF-10LL(5EUMFS)<V2,V3> |
| | SC-032-K81-MA0 | 2B | IC,M5M5256CFP-70LL(5EUMFS)<V2,V3> |
| | 87-001-948-080 | 1B | IC,PST572CMT(5EUBFP)<V2,V3> |
| | SD-493-07X-010 | 2B | IC,HD49307(5EUNFH)<V2,V3> |
| | 82-NV1-628-080 | 1H | IC,CXA1645M(5EUBFC)<V2,V3> |
| | SP-D63-210-010 | 2P | IC,UPD63210GT-E1(5EUNFU)<V2,V3> |
| | S1-010-XXX-010 | 3M | IC,UPD61010AGD-LBD(5EULF6)<V2,V3> |
| | SC-170-CXX-010 | 2D | IC,TC170C100AF-001(5EUKFT)<V2,V3> |
| | SC-256-KG1-T10 | | IC,TC514260BJ-70(5EULMD)<V3> |
| | SC-000-002-000 | | IC,TC514260BJ-70(5EULMD)<V3> |
| | SC-000-001-000 | 2H | IC,TC514260BJ-70(5EULMD)<V2> |
| | SL-C29-32X-010 | 2M | IC,TLC2932IPW(5EUNFT)<V2,V3> |
| TRANSISTOR | | | |
| | SC-408-1XX-010 | 1B | TR,2SC4081(5EQQ2S)<V2,V3> |
| | S1-441-XXX-010 | 1B | TR,RN1441-A(5EQQRN)<V2,V3> |
| | SA-157-6XX-010 | 1B | TR,2SA1576(5EQQ2S)<V2,V3> |
| | 89-111-625-089 | 0E | C-TR,2SA1162GR |
| | 87-026-237-089 | 0E | C-TR,DTC124XK |
| | 89-213-702-019 | 1A | TR 2SB1370E |
| | 89-327-125-089 | 0E | C-TR,2SC2712GR |
| | 89-112-965-089 | 0E | TR,2SA1296GR |
| | 87-026-608-089 | 0E | C-TR,DTC 123 JK<F> |
| | 89-333-266-089 | 0E | C-TR,2SC3326B |
| | 87-026-580-089 | 0E | C-TR,DTA123JK |
| DIODE | | | |
| | S1-305-700-283 | 1C | DIODE,DA115(5EDQDD)<V2,V3> |
| | SA-P20-2UX-010 | 0E | DIODE,DAP202U(5EDQDD)<V2,V3> |
| | 87-002-608-089 | 0E | DIODE,DSF10TC |
| | 87-020-465-089 | 0E | DIODE,ISS133 |
| MAIN VCD C.B | | | |
| C101 | 87-012-140-089 | 0E | C-CAP,S 470P-50 CH |
| C102 | 87-010-194-089 | 0E | C-CAP,S 0.047-25 F |
| C103 | 87-010-178-089 | 0E | C-CAP,S 1000P-50 B |
| C104 | 87-012-156-089 | 0E | C-CAP,S 220P-50 CH |
| C105 | 87-010-263-089 | 0E | CAP,E 100-10 SME |
| C106 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C107 | 87-010-314-089 | 0E | C-CAP,S 22P-50 CH |
| C108 | 87-010-314-089 | 0E | C-CAP,S 22P-50 CH |
| C109 | 87-010-400-089 | 0E | CAP,E 0.47-50 SME |
| C110 | 87-010-221-089 | 0E | CAP,E 470-10 11L |
| C111 | 87-010-320-089 | 0E | C-CAP,S 68P-50 CH |
| C113 | 87-010-260-089 | 0E | CAP,E 47-25 SME |
| C114 | 87-010-498-049 | 0E | CAP,E 10-16 GAS |
| C115 | 87-010-498-049 | 0E | CAP,E 10-16 GAS<G> |
| C116 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C117 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C118 | 87-010-555-049 | 0E | CAP,E 100-10 GAS |
| C119 | 87-010-555-049 | 0E | CAP,E 100-10 GAS |
| C120 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C121 | 87-010-263-089 | 0E | CAP,E 100-10 SME |

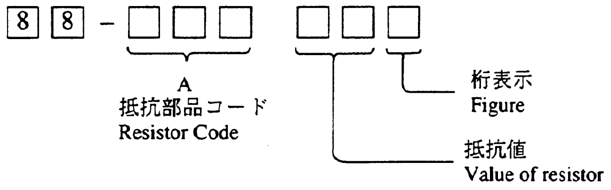
| REF. NO. | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| C122 | 87-010-320-089 | 0E | C-CAP,S 68P-50 CH<D> |
| C123 | 87-010-401-089 | 0E | CAP,E 1-50 SME |
| C124 | 87-A10-011-019 | ?? | CAP,E 2200-25 SMG |
| C125 | 87-010-322-089 | 0E | C-CAP,S 100P-50 CH |
| C126 | 87-010-178-089 | 0E | C-CAP,S 1000P-50 B |
| C127 | 87-010-314-089 | 0E | C-CAP,S 22P-50 CH<G> |
| C128 | 87-010-320-089 | 0E | C-CAP,S 68P-50 CH |
| C129 | 87-010-263-089 | 0E | CAP,E 100-10 SME<D> |
| C130 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<D> |
| C131 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C132 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C133 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C134 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C135 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C201 | 87-010-382-089 | 0E | CAP,E 22-25 SME |
| C202 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C203 | 87-010-382-089 | 0E | CAP,E 22-25 SME |
| C204 | 87-010-381-089 | 0E | CAP,E 330-16 SME |
| C205 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C206 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C207 | 87-010-498-049 | 0E | CAP,E 10-16 GAS<F> |
| C208 | 87-010-405-089 | 0E | CAP,E 10-50 SME |
| C301 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C306 | 87-010-381-089 | 0E | CAP,E 330-16 SME |
| C307 | 87-010-553-049 | 0E | CAP,E 47-16 GAS |
| C308 | 87-010-498-049 | 0E | CAP,E 10-16 GAS |
| C309 | 87-010-404-089 | 0E | CAP,E 4.7-50 SME |
| C310 | 87-010-404-089 | 0E | CAP,E 4.7-50 SME |
| C311 | 87-012-140-089 | 0E | C-CAP,S 470P-50 CH |
| C312 | 87-012-140-089 | 0E | C-CAP,S 470P-50 CH |
| C313 | 87-010-263-089 | 0E | CAP,E 100-10 SME |
| C315 | 87-010-404-089 | 0E | CAP,E 4.7-50 SME |
| C316 | 87-010-404-089 | 0E | CAP,E 4.7-50 SME |
| C317 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C318 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C401 | 87-010-405-089 | 0E | CAP,E 10-50 SME<G> |
| C402 | 87-010-314-089 | 0E | C-CAP,S 22P-50 CH<G,V3> |
| C403 | 87-010-315-089 | 0E | C-CAP,S 27P-50 CH<G,V3> |
| C404 | 87-010-314-089 | 0E | C-CAP,S 22P-50 CH<G,V2> |
| C405 | 87-010-315-089 | 0E | C-CAP,S 27P-50 CH<G,V2> |
| C406 | 87-010-263-089 | 0E | CAP,E 100-10 SME<G> |
| C407 | 87-010-263-089 | 0E | CAP,E 100-10 SME<G> |
| C408 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F<G> |
| C409 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F<G> |
| CN107 | 85-MAR-617-019 | -- | CABLE ASSY,6P-1.25 |
| EM101 | 87-008-474-089 | 0E | F-BEAD,EMI BL02RN1 |
| EM102 | 87-008-474-089 | 0E | F-BEAD,EMI BL02RN1 |
| FC1 | 85-NFT-612-019 | 1B | FF-CABLE,30P-1.0 |
| FC2 | 88-912-131-219 | 1A | FF-CABLE,12P 1.25 |
| FC3 | 85-NF5-617-019 | 1A | CABLE,FFC 6P-1.25 |
| J101 | 87-009-502-019 | 1A | JACK,PIN 1PY EARTH |
| L101 | 87-003-149-089 | 0E | COIL,47UH |
| L102 | 87-003-149-089 | 0E | COIL,47UH |
| L401 | 87-003-149-089 | 0E | COIL,47UH<G> |
| L402 | 87-003-149-089 | 0E | COIL,47UH<G> |
| M401 | 87-045-305-019 | 1E | MOTOR, RF-500TB |
| SW201 | 87-036-109-019 | 0E | SW,PUSH SPPB 61 |
| SW202 | 87-036-109-019 | 0E | SW,PUSH SPPB 61 |
| X101 | 87-030-270-089 | 1C | VIB,XTAL 16.9344MHZ |
| X201 | 89-MX1-704-089 | 1A | CERA LOCK(MU)3.9MHZ |
| X401 | 80-JUC-602-089 | 1C | VIB,XTAL 17.73MHZ<G,V3> |
| X402 | 80-JUC-601-089 | 1C | VIB,XTAL 14.31MHZ<G,V2> |
| CD MECHA C.B | | | |
| C101 | 87-010-154-089 | 0E | C-CAP,S 10P-50 CH |
| C102 | 87-010-184-089 | 0E | C-CAP,S 3300P-50 B |
| C103 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C104 | 87-010-193-089 | 0E | C-CAP,S 0.033-25 F |
| C105 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |

| REF. NO. | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| C107 | 87-010-182-089 | 0E | C-CAP,S 2200P-50 B |
| C108 | 87-010-805-089 | 0E | C-CAP,S 1-16F |
| C109 | 87-010-322-089 | 0E | C-CAP,S 100P-50 CH |
| C110 | 87-010-198-089 | 0E | C-CAP,S 0.022-25 B |
| C111 | 87-010-551-089 | 0E | CAP ELECT 33-10V SRE |
| C112 | 87-010-322-089 | 0E | C-CAP,S 100P-50 CH |
| C113 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C114 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C115 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C116 | 87-010-182-089 | 0E | C-CAP,S 2200P-50 B |
| C117 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C118 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C119 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C120 | 87-010-549-089 | 0E | CAP ELECT 47-6.3V |
| C121 | 87-010-549-089 | 0E | CAP ELECT 47-6.3V |
| C122 | 87-010-497-089 | 0E | CAP,E 4.7-35 5L |
| C123 | 87-010-549-089 | 0E | CAP ELECT 47-6.3V |
| C125 | 87-010-550-049 | 0E | CAP,E 100-6.3 GAS |
| C126 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C127 | 87-010-549-089 | 0E | CAP,E 47-6.3 GAS |
| C128 | 87-010-549-089 | 0E | CAP ELECT 47-6.3V |
| C129 | 87-010-182-089 | 0E | C-CAP,S 2200P-50 B |
| C131 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C133 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C134 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C135 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C136 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C137 | 87-010-805-089 | 0E | C-CAP,S 1-16F |
| C138 | 87-010-178-089 | 0E | C-CAP,S 1000P-50 B |
| C140 | 87-010-805-089 | 0E | C-CAP,S 1-16F |
| FC4 | 85-NFT-611-119 | 1A | FF-CABLE,16P-1.0 |
| M101 | 87-045-356-019 | 1F | MOT,RF-310T A 30 |
| M102 | 87-045-358-019 | 1F | MOT,RF-310T A 43 |
| R140 | 87-022-365-089 | 0E | C-RES,S 100K-1/10W F |
| R141 | 87-022-363-089 | 0E | C-RES,S 68K-1/10W F |
| R142 | 87-022-363-089 | 0E | C-RES,S 68K-1/10W F |
| R143 | 87-022-363-089 | 0E | C-RES,S 68K-1/10W F |
| R144 | 87-022-363-089 | 0E | C-RES,S 68K-1/10W F |
| R145 | 87-022-365-089 | 0E | C-RES,S 100K-1/10W F |
| SFR101 | 87-024-175-089 | 0E | SFR,47K DIA6 V |
| SFR102 | 87-024-176-089 | 0E | SFR,100K DIA6 V |
| SFR103 | 87-024-175-089 | 0E | SFR,47K DIA6 V |
| SW101 | 87-036-340-019 | 0E | SW,LEAF LSA-1121 |

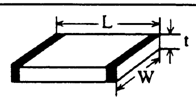
| REF. NO. | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| LED C.B<F> | | | |
| LED101 | 87-017-806-010 | 0E | LED,SEL1810DM<F> |
| LED102 | 87-017-350-080 | 0E | LED,SEL1550CM<F> |
| LED103 | 87-017-350-080 | 0E | LED,SEL1550CM<F> |
| LED104 | 87-017-806-010 | 0E | LED,SEL1810DM<F> |
| T-T C.B | | | |
| C401 | 87-018-214-089 | 0E | CAP TC U 0.1-50 F |
| FC401 | 84-ZG1-614-119 | 1A | CABLE FFC 5P-1.25 |
| M401 | 87-045-364-019 | 1D | MOTOR,(BCH3B14) |
| PS401 | 87-026-573-019 | 1B | P-SNSR,GP1S53V |
| TR C.B | | | |
| VCD C.B<V2,V3> | | | |
| PCB-F | 85-NFT-617-010 | 9Z | MPEG MODULE NTSC<V2> |
| C13 | 87-010-367-080 | | CAP,E 4.7-25V(5ECEC1)<V3> |
| C38 | 87-010-075-040 | | CAP,E 10-16V(5ECEC1)<V3> |
| C40 | 87-010-549-010 | | CAP,E 47-6.3V(5ECEC0)<V3> |
| C44 | 87-010-549-010 | | CAP,E 47-6.3V(5ECEC0)<V3> |
| C47 | 87-010-549-010 | | CAP,E 47-6.3V(5ECEC0)<V3> |
| C48 | 87-010-549-010 | | CAP,E 47-6.3V(5ECEC0)<V3> |
| C51 | 87-010-549-010 | | CAP,E 47-6.3V(5ECEC0)<V3> |
| C54 | 87-010-549-010 | | CAP,E 47-6.3V(5ECEC0)<V3> |
| C56 | 87-010-076-810 | | CAP,E 22-6.3V(5ECEC0)<V3> |
| C58 | 87-010-076-810 | | CAP,E 22-6.3V(5ECEC0)<V3> |
| C81 | 87-016-155-010 | | CAP,E 1000-6.3V5ECER0)<V3> |
| C128 | 87-010-549-010 | | CAP,E 47-6.3V(5ECEC0)<V3> |
| C133 | 87-010-053-810 | | CAP,E 1-50V(5ECEC1)<V3> |
| C150 | 87-010-075-040 | | CAP,E 10-16V(5ECEC1)<V3> |
| C151 | 87-010-549-010 | | CAP,E 47-6.3V(5ECEC0)<V3> |
| C152 | 87-016-155-010 | | CAP,E 1000-6.3V5ECER0)<V3> |
| C157 | 87-010-075-040 | | CAP,E 10-16V(5ECEC1)<V3> |
| CT1 | S2-130-007-010 | | CAP,TRIMMER 30PF(5ECT04)<V3> |
| L1 | S7-001-XXX-100 | | C-COIL,47UH(5ELQE4)<V3> |
| X1 | S0-120-003-010 | | X'TAL,12.0000MHZ(5EXMA4)<V3> |
| X2 | S0-177-343-010 | | X'TAL,17.73447MHZ(5EXMA4)<V3> |

## ○ チップ抵抗部品コード／CHIP RESISTOR PART CODE

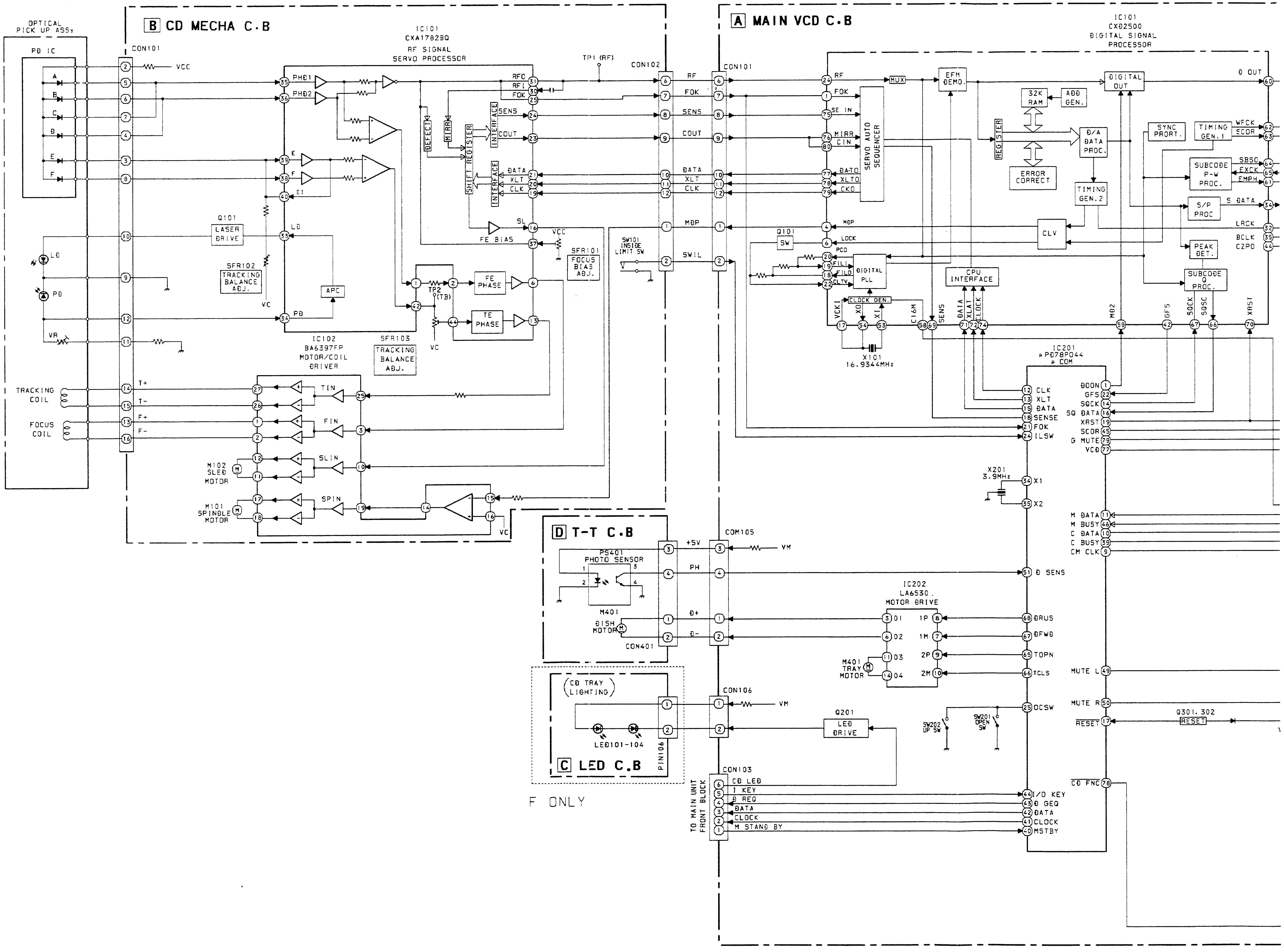
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



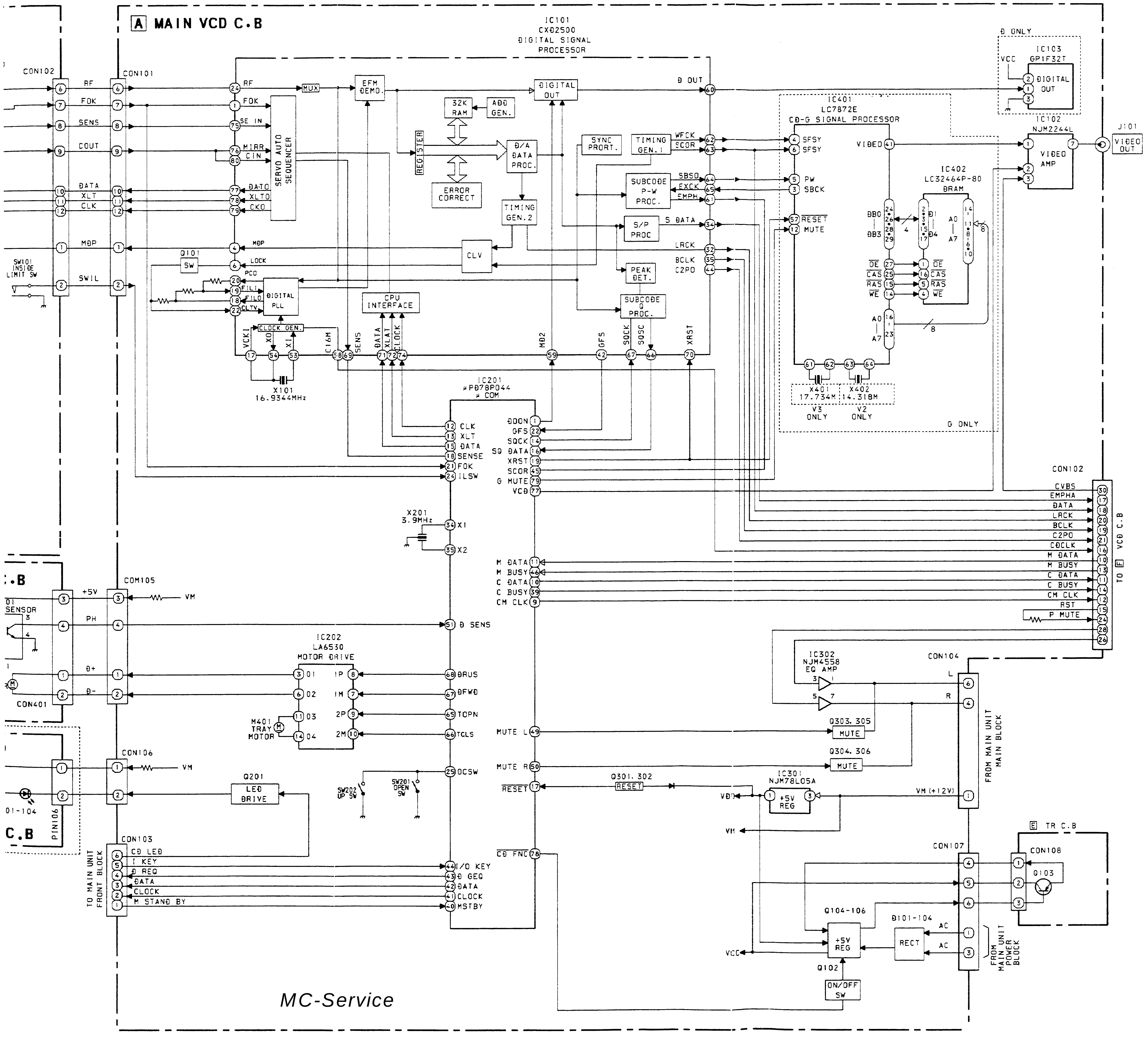
チップ抵抗
Chip resistor

| 容量<br>Wattage | 種類<br>Type | 許容誤差<br>Tolerance | 記号<br>Symbol | 寸法／Dimensions (mm) | | | | 抵抗コード : A<br>Resistor Code: A |
|---|---|---|---|---|---|---|---|---|
| | | | | 外形／Form | L | W | t | |
| 1／16W | 1608 | ±5% | CJ |  | 1.6 | 0.8 | 0.45 | 108 |
| 1／10W | 2125 | ±5% | CJ | | 2 | 1.25 | 0.45 | 118 |
| 1／8W | 3216 | ±5% | CJ | | 3.2 | 1.6 | 0.55 | 128 |

# BLOCK DIAGRAM-1 (MAIN VCD ╱ CD MECHA)

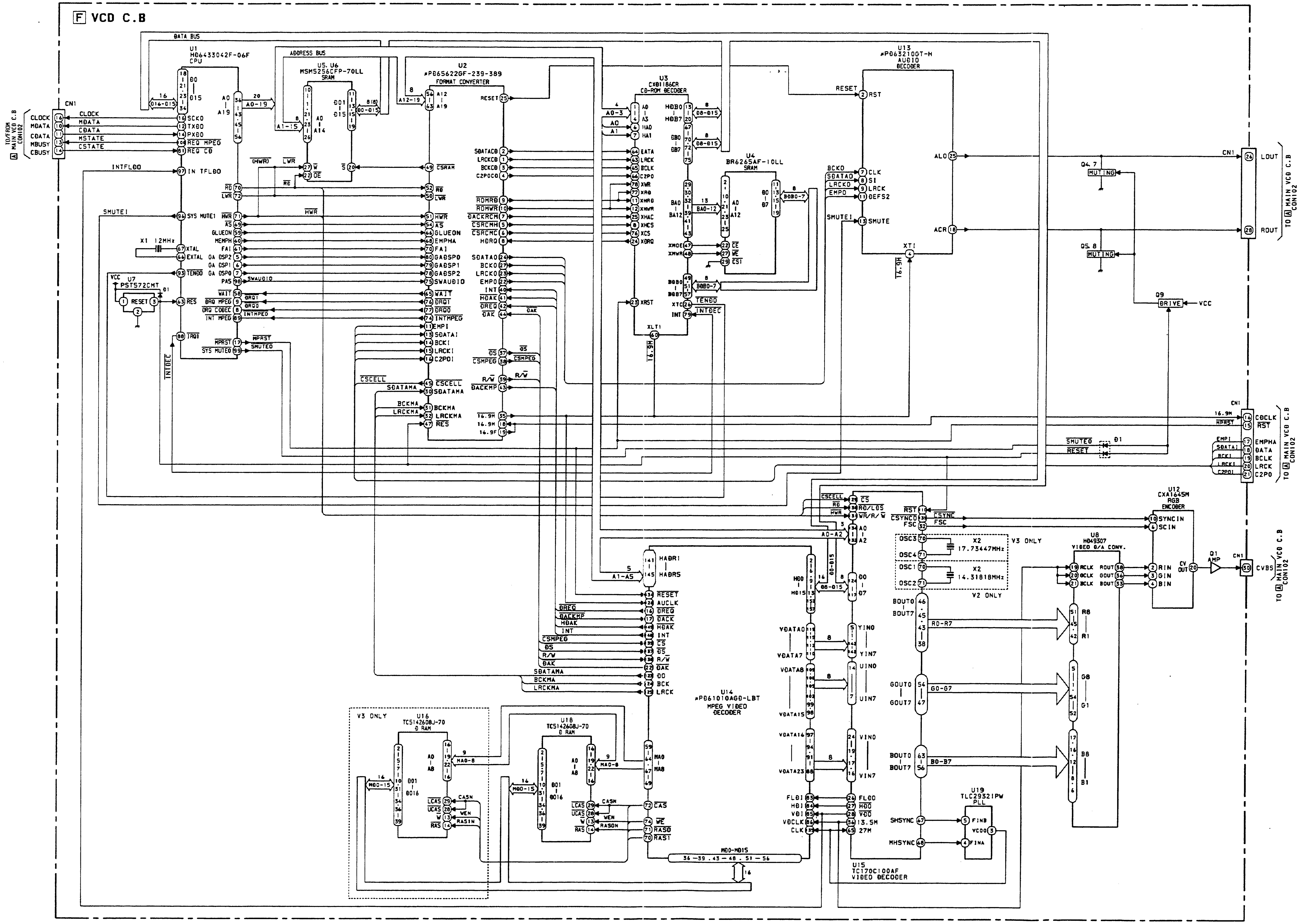

OPTICAL PICK UP ASSy
PD IC
B CD MECHA C.B
CON101
IC101
CXA1782BQ
RF SIGNAL SERVO PROCESSOR
TP1 (RF)
CON102
SHIFT REGISTER
INTERFACE
DEFECT
MIRR
FE BIAS
LASER DRIVE
APC
SFR102 TRACKING BALANCE ADJ.
SFR101 FOCUS BIAS ADJ.
SFR103 TRACKING BALANCE ADJ.
FE PHASE
TE PHASE
TP2 (TB)
SW101 INSIDE LIMIT SW
IC102
BA6397FP
MOTOR/COIL DRIVER
TIN
FIN
SLIN
SPIN
TRACKING COIL
FOCUS COIL
M102 SLED MOTOR
M101 SPINDLE MOTOR
LD
PD
VR
VCC
VC
A MAIN VCD C.B
IC101
CXD2500
DIGITAL SIGNAL PROCESSOR
MUX
EFM DEMO.
DIGITAL OUT
32K RAM
ADD GEN.
REGISTER
D/A DATA PROC.
ERROR CORRECT
TIMING GEN.2
SYNC PRORT.
TIMING GEN.1
SUBCODE P-W PROC.
S/P PROC
PEAK DET.
SUBCODE Q PROC.
CLV
CPU INTERFACE
SERVO AUTO SEQUENCER
DIGITAL PLL
CLOCK GEN.
Q101 SW
X101 16.9344MHz
D OUT
WFCK
SCOR
SBSO
EXCK
EMPH
S DATA
LRCK
BCLK
C2PO
IC201
μPD78P044
μ COM
X201 3.9MHz
DOON
GFS
SQCK
SQ DATA
XRST
SCOR
G MUTE
VCD
M DATA
M BUSY
C DATA
C BUSY
CM CLK
D SENS
DRUS
DFWD
TOPN
TCLS
OCSW
MUTE L
MUTE R
RESET
CD FNC
I/O KEY
D GEQ
DATA
CLOCK
MSTBY
Q301, 302 RESET
D T-T C.B
PS401 PHOTO SENSOR
M401 DISH MOTOR
CON401
CON105
VM
IC202
LA6530
MOTOR DRIVE
M401 TRAY MOTOR
SW202 UP SW
SW201 OPEN SW
CON106
C LED C.B
(CD TRAY LIGHTING)
LED101-104
PIN106
Q201 LED DRIVE
CON103
TO MAIN UNIT FRONT BLOCK
CD LED
I KEY
D REQ
DATA
CLOCK
M STAND BY

F ONLY


A MAIN VCD C.B
IC101
CXD2500
DIGITAL SIGNAL
PROCESSOR
CON102
CON101
RF
FOK
SENS
COUT
DATA
XLT
CLK
MDP
SWIL
SW101
INSIDE
LIMIT SW
MUX
EFM
DEMO.
32K
RAM
ADD
GEN.
REGISTER
D/A
DATA
PROC.
ERROR
CORRECT
DIGITAL
OUT
D OUT
SERVO AUTO
SEQUENCER
SE IN
MIRR
CIN
DATO
XLTO
CKO
SYNC
PRORT.
TIMING
GEN.1
WFCK
SCOR
SUBCODE
P-W
PROC.
SBSO
EXCK
EMPH
TIMING
GEN.2
S/P
PROC
S DATA
LRCK
BCLK
C2PO
PEAK
DET.
SUBCODE
Q
PROC.
CLV
Q101
SW
LOCK
PCO
FILI
FILO
CLTV
DIGITAL
PLL
CLOCK GEN.
CPU
INTERFACE
VCKI
XO
XI
C16M
SENS
DATA
XLAT
CLOCK
MD2
GFS
SQCK
SQSC
XRST
X101
16.9344MHz
IC201
μPD78P044
μ COM
CLK
XLT
DATA
SENSE
FOK
ILSW
DOON
GFS
SQCK
SQ DATA
XRST
SCOR
G MUTE
VCD
X201
3.9MHz
X1
X2
M DATA
M BUSY
C DATA
C BUSY
CM CLK
D SENS
MUTE L
MUTE R
RESET
DCSW
CD FNC
I/O KEY
D GEQ
DATA
CLOCK
MSTBY
D ONLY
IC103
GP1F32T
VCC
DIGITAL
OUT
IC401
LC7872E
CD-G SIGNAL PROCESSOR
SFSY
SFSY
PW
SBCK
RESET
MUTE
VIDEO
IC402
LC32464P-80
DRAM
DB0
DB3
D1
D4
A0
A7
DE
CAS
RAS
WE
X401
17.734M
X402
14.318M
V3
ONLY
V2
ONLY
G ONLY
IC102
NJM2244L
VIDEO
AMP
J101
VIDEO
OUT
CON102
CVBS
EMPHA
DATA
LRCK
BCLK
C2PO
CDCLK
M DATA
M BUSY
C DATA
C BUSY
CM CLK
RST
P MUTE
TO F VCD C.B
C.B
SENSOR
COM105
+5V
PH
VM
D+
D-
CON401
IC202
LA6530
MOTOR DRIVE
DRUS
DFWD
TOPN
TCLS
M401
TRAY
MOTOR
SW202
UP SW
SW201
OPEN
SW
CON106
Q201
LED
DRIVE
01-104
C.B
PIN106
CON103
CD LED
I KEY
D REQ
DATA
CLOCK
M STAND BY
TO MAIN UNIT
FRONT BLOCK
IC302
NJM4558
EQ AMP
CON104
L
R
Q303, 305
MUTE
Q304, 306
MUTE
Q301, 302
RESET
IC301
NJM78L05A
+5V
REG
VD
VM (+12V)
FROM MAIN UNIT
MAIN BLOCK
E TR C.B
CON108
Q103
CON107
Q104-106
+5V
REG
D101-104
RECT
AC
AC
VCC
Q102
ON/OFF
SW
FROM
MAIN UNIT
POWER
BLOCK

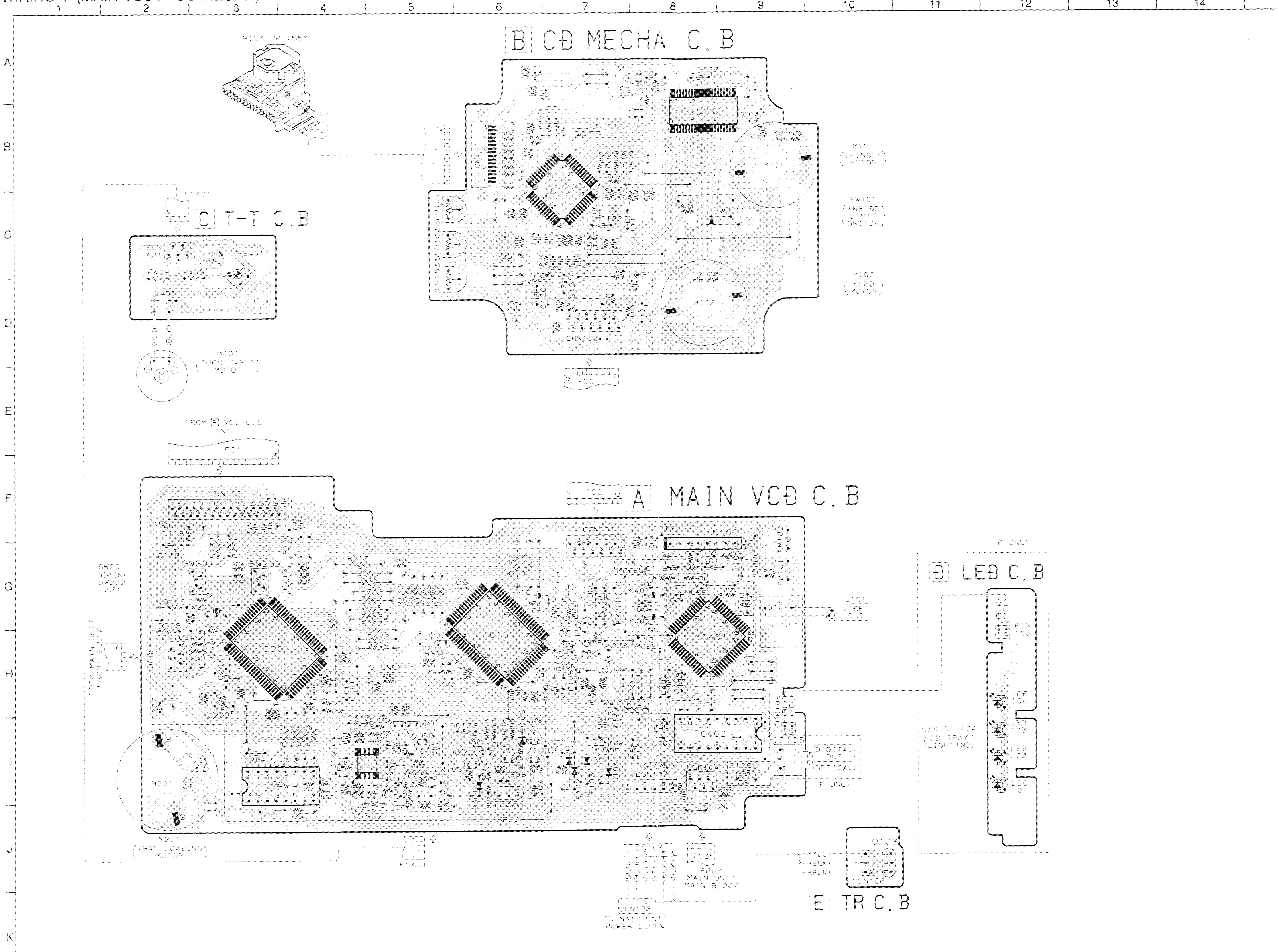
MC-Service

# BLOCK DIAGRAM-2 (VCD)

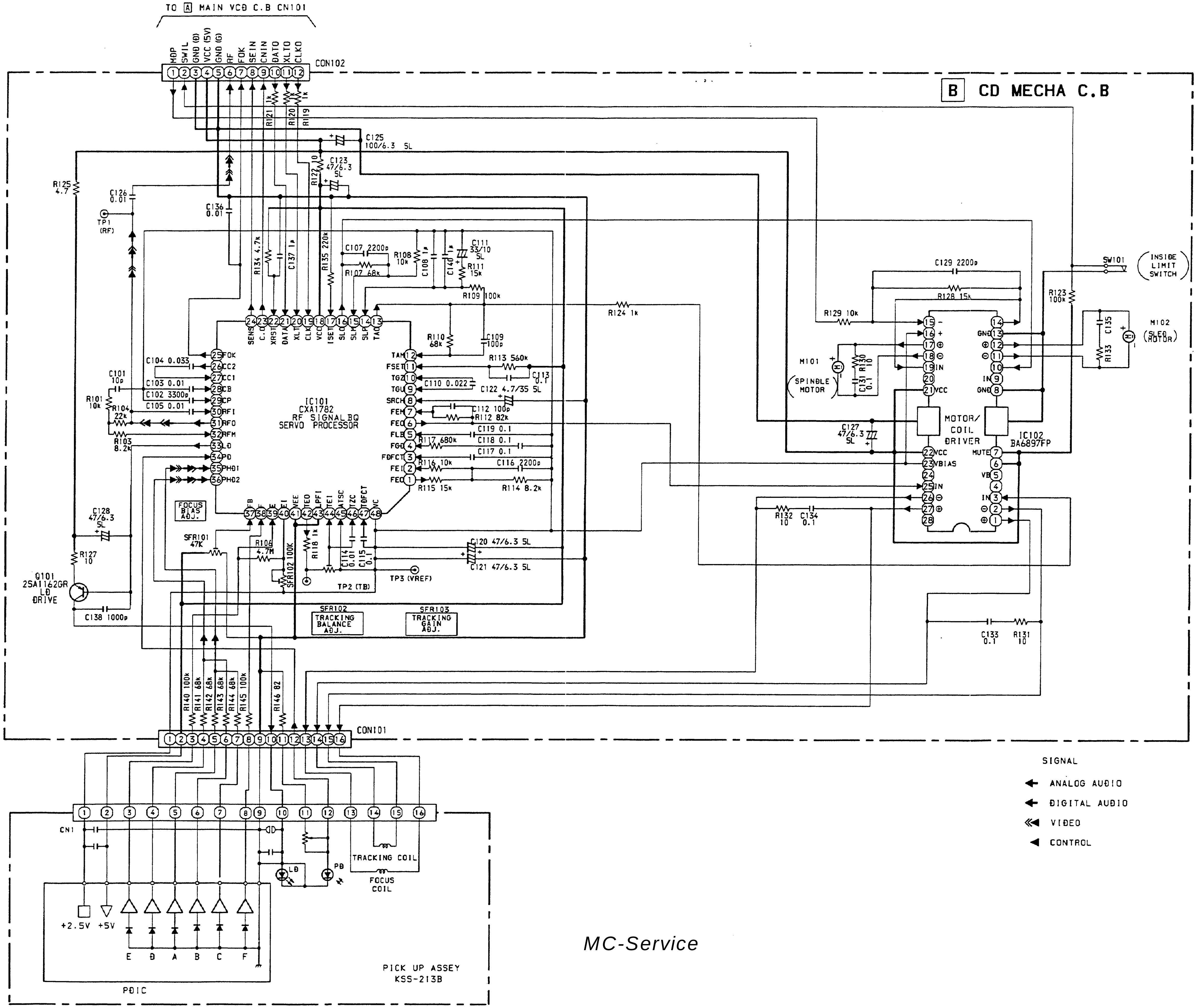


F VCD C.B
U1 HD6433042F-06F CPU
U5, U6 MSM5256CFP-70LL SRAM
U2 #P065622GF-239-389 FORMAT CONVERTER
U3 CXD1186CR CD-ROM DECODER
U4 BR6265AF-10LL SRAM
U13 #P063210GT-H AUDIO DECODER
U7 PST572CMT
X1 12MHz
U12 CXA1645M RGB ENCODER
U8 HD49307 VIDEO D/A CONV.
U14 #P061010AGD-LBT MPEG VIDEO DECODER
U15 TC170C100AF VIDEO DECODER
U16 TC5142608J-70 D RAM
U18 TC5142608J-70 D RAM
U19 TLC2932IPW PLL
X2 17.73447MHz
X2 14.31818MHz
V3 ONLY
V2 ONLY
Q4, 7 MUTING
Q5, 8 MUTING
Q9 DRIVE
Q1 AMP
D1
DATA BUS
ADDRESS BUS
CN1
TO/FROM A MAIN VCD C.B CON102
TO A MAIN VCD C.B CON102
CLOCK
MDATA
CDATA
MBUSY
CBUSY
LOUT
ROUT
CDCLK
RST
EMPHA
DATA
BCLK
LRCK
C2PO
CVBS

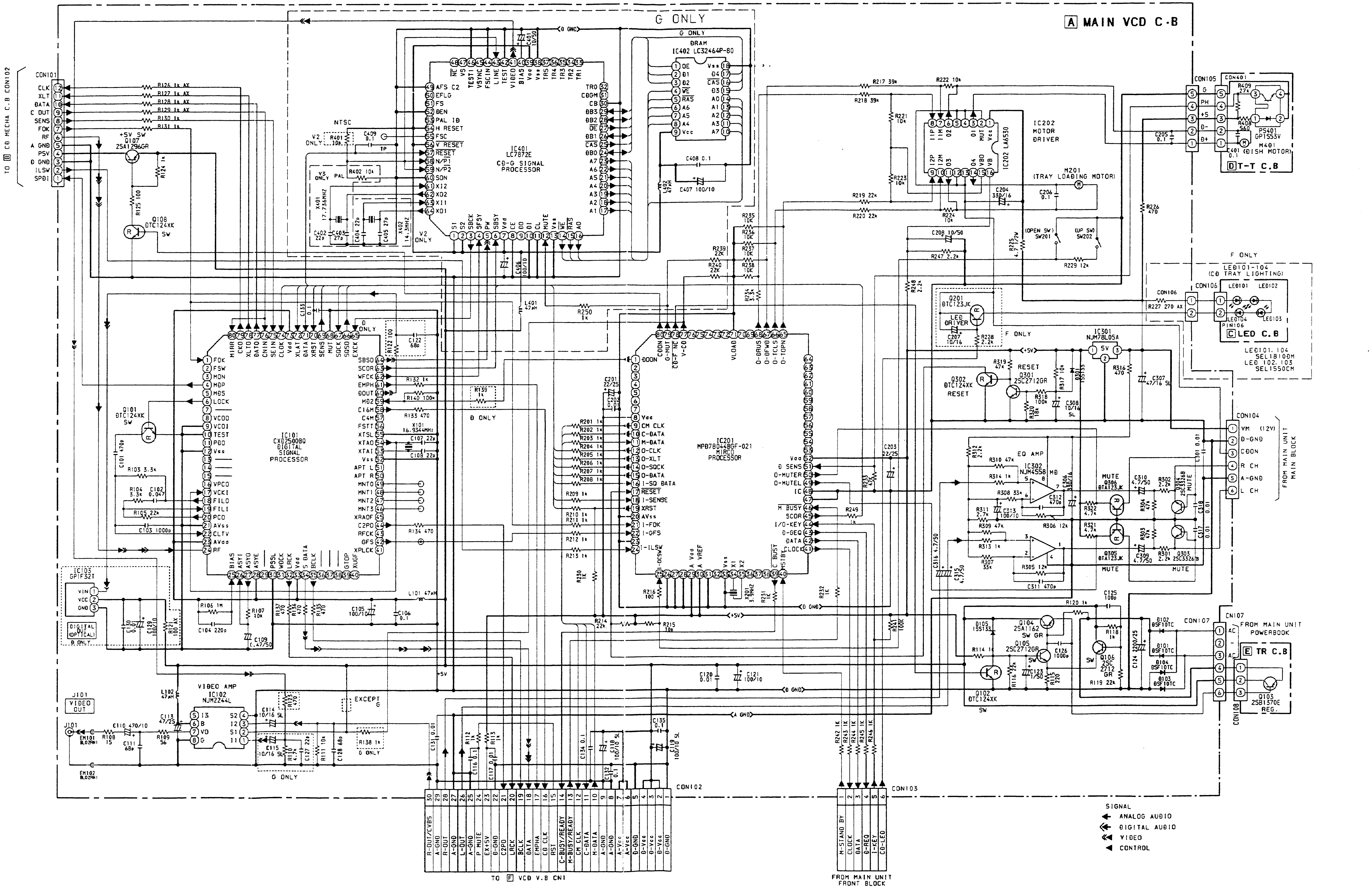
## WIRING-1 (MAIN VCD ／ CD MECHA)


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
K
PICK UP ASSY
B CD MECHA C.B
CN101
IC101
IC102
SW101
M101
M102
CON102
SFR101
SFR102
SFR103
TP2
TP3 (VREF)
M101 (SPINDLE MOTOR)
SW101 (INSIDE LIMIT SWITCH)
M102 (SLED MOTOR)
FC2
FC401
C T-T C.B
CON 401
PS401
R409
R408
C401
(RED)
(BLK)
M401 (TURN TABLE MOTOR)
FROM E VCD C.B CN1
FC1
A MAIN VCD C.B
CON102
CON101
IC102
IC201
IC101
IC401
IC402
IC301
SW201
SW202
SW201 (OPEN) SW202 (UP)
FROM MAIN UNIT FRONT BLOCK
CON103
J101
J101 (VIDEO OUT)
EM101
DIGITAL OUT (OPTICAL)
CON104
CON105
CON106
CON107
G ONLY
F ONLY
M201
M201 (TRAY LOADING MOTOR)
FC401
FC3
FROM MAIN UNIT MAIN BLOCK
CON108
TO MAIN UNIT POWER BLOCK
(YEL)
(BLK)
(BLK)
Q103
CON105
E TR C.B
F ONLY
D LED C.B
PIN 106
LED 104
LED 103
LED 102
LED 101
LED101-104 (CD TRAY LIGHTING)

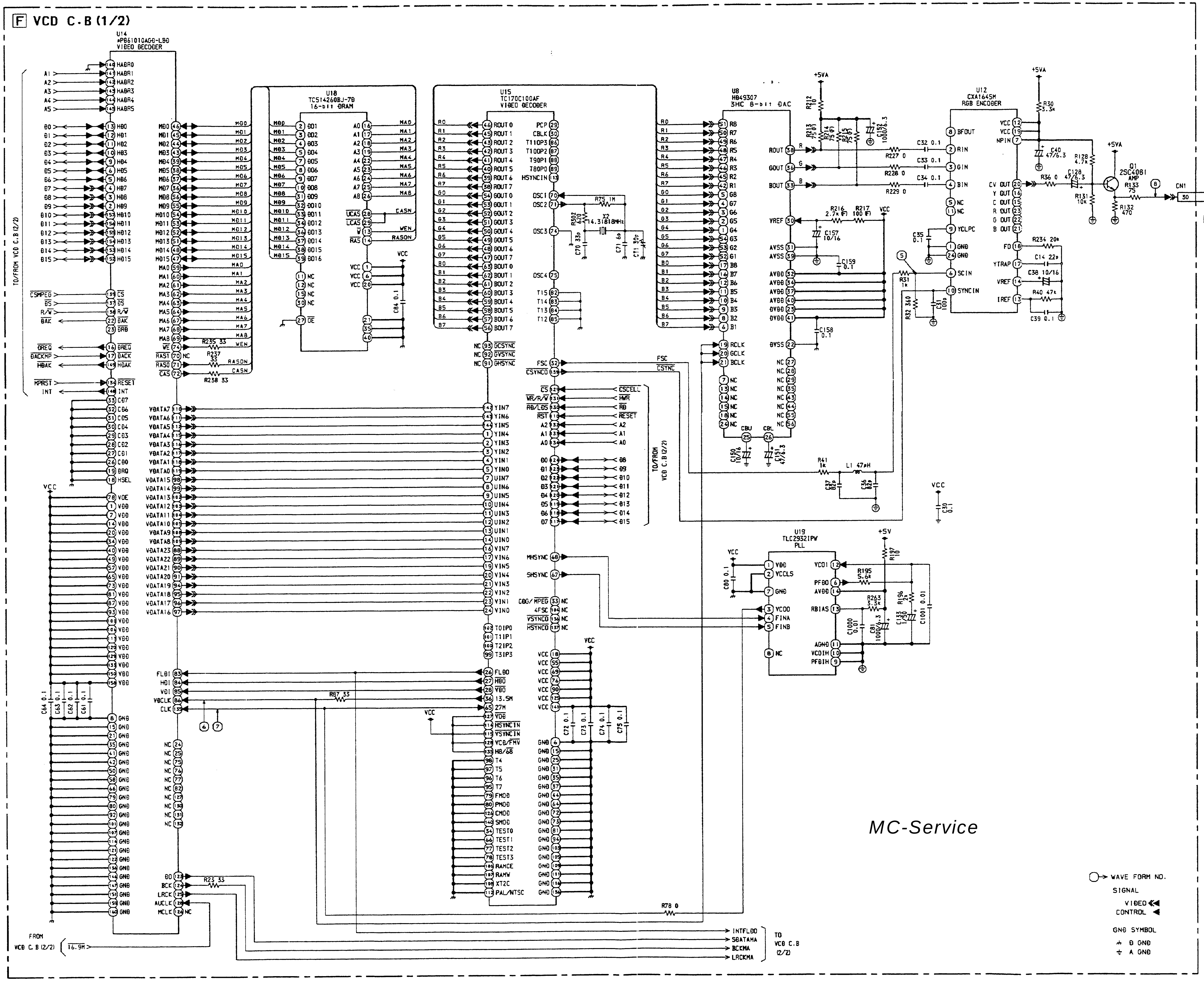
# SCHEMATIC DIAGRAM-1 (CD MECHA)


TO A MAIN VCD C.B CN101
MDP
SWIL
GND (D)
VCC (5V)
GND (G)
RF
FOK
SEIN
CNIN
DATO
XLTO
CLKO
CON102
B CD MECHA C.B
R121 1k
R120 1k
R119 1k
C125 100/6.3 5L
C123 47/6.3 5L
R122 0
R125 4.7
C126 0.01
TP1 (RF)
C136 0.01
R134 4.7k
C137 1μ
R135 220k
C107 2200p
R107 68k
R108 10k
C108 1μ
C140 1μ
C111 33/10 5L
R111 15k
R109 100k
R124 1k
R110 68k
C109 100p
R113 560k
C113 0.1
C110 0.022
C122 4.7/35 5L
C112 100p
R112 82k
C119 0.1
C118 0.1
R117 680k
C117 0.1
R116 10k
C116 2200p
R115 15k
R114 8.2k
C104 0.033
C103 0.01
C102 3300p
C105 0.01
C101 10p
R101 10k
R104 22k
R103 8.2k
IC101
CXA1782
RF SIGNAL BQ
SERVO PROCESSOR
SENS
C.OUT
XRST
DATA
XLT
CLK
VCC
ISET
SLO
SLM
SLP
TAO
TAM
FSET
TGZ
TGU
SRCH
FEM
FEO
FLB
FGG
FDFCT
FEI
FEO
FOK
CC2
CC1
CB
CP
RFI
RFO
RFM
LD
PD
PHD1
PHD2
FB
VEE
TEO
LPFI
TEI
ATSC
TZC
TDFCT
VC
FOCUS BIAS ADJ.
SFR101 47K
R106 4.7M
SFR102 100K
R118 1k
C114 0.01
C115 0.1
C120 47/6.3 5L
C121 47/6.3 5L
TP3 (VREF)
TP2 (TB)
SFR102 TRACKING BALANCE ADJ.
SFR103 TRACKING GAIN ADJ.
C128 47/6.3 5L
R127 10
Q101 2SA1162GR LD DRIVE
C138 1000p
C129 2200p
R128 15k
R129 10k
R123 100k
SW101
INSIDE LIMIT SWITCH
M102 (SLED MOTOR)
C135
R133
M101 (SPINDLE MOTOR)
C131 0.1
R130 10
C127 47/6.3 5L
MOTOR/ COIL DRIVER
IC102 BA6897FP
VCC
VBIAS
IN
GND
MUTE
VB
R132 10
C134 0.1
C133 0.1
R131 10
R140 100k
R141 68k
R142 68k
R143 68k
R144 68k
R145 100k
R146 82
CON101
CN1
TRACKING COIL
FOCUS COIL
LD
PD
+2.5V
+5V
E
D
A
B
C
F
PDIC
PICK UP ASSEY KSS-213B
SIGNAL
ANALOG AUDIO
DIGITAL AUDIO
VIDEO
CONTROL

## SCHEMATIC DIAGRAM-2 (MAIN VCD)

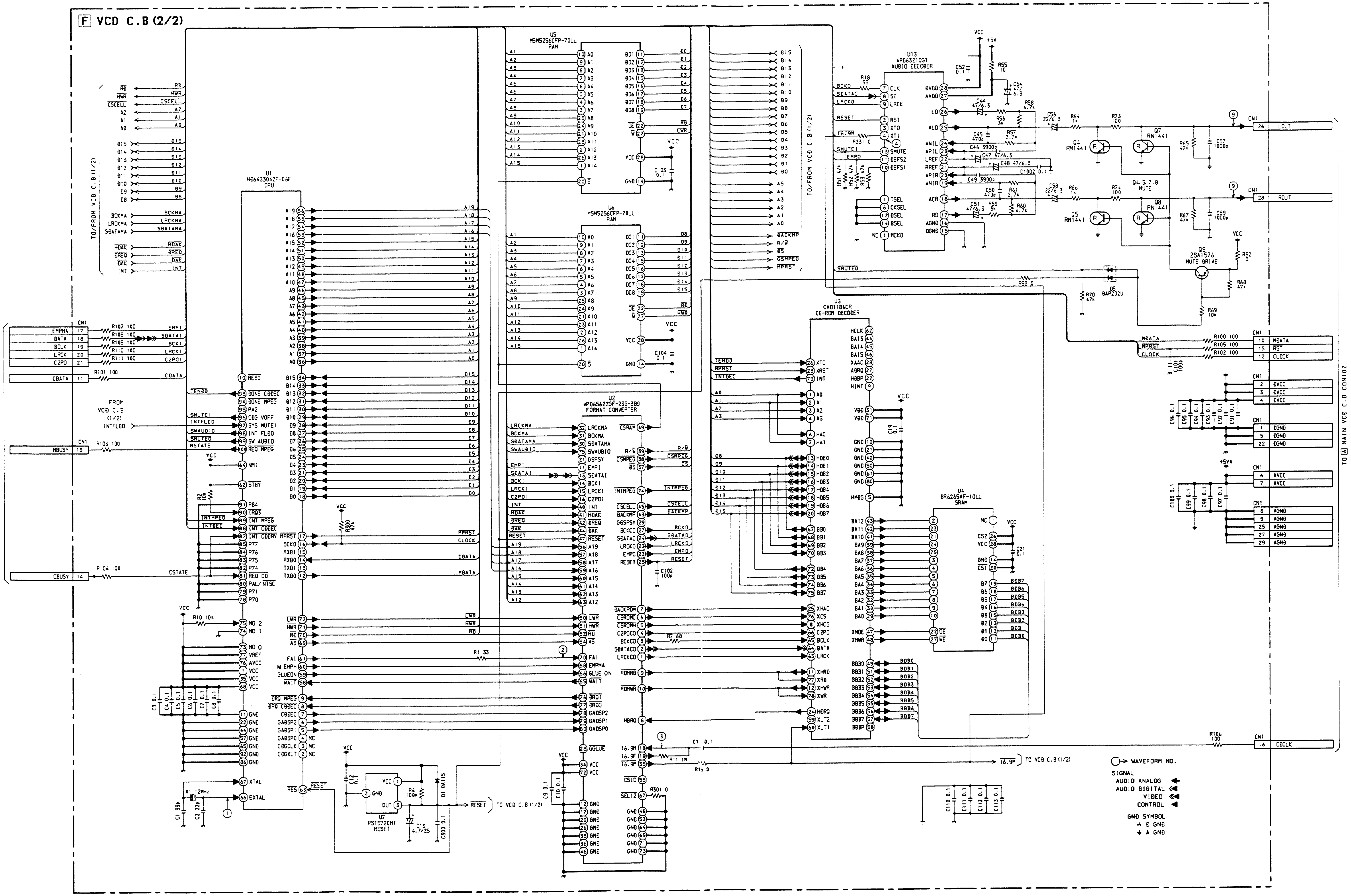

A MAIN VCD C.B
G ONLY
TO B CD MECHA C.B CON102
CON101
CLK
XLT
DATA
C OUT
SENS
FOK
RF
A GND
PSV
D GND
ILSW
SPDI
+5V SW
Q107 2SA1296GR
Q108 DTC124XK SW
IC401 LC7872E CD-G SIGNAL PROCESSOR
NTSC
PAL
X401 17.734MHZ
X402 14.3MHZ
DRAM IC402 LC32464P-80
IC101 CXD2500BQ DIGITAL SIGNAL PROCESSOR
X101 16.9344MHz
Q101 DTC124XK SW
D ONLY
IC103 GP1F32T
DIGITAL OUT (OPTICAL)
IC201 MPD78044BGF-021 MIRCO PROCESSOR
X201 5.99MHz
IC202 LA6530 MOTOR DRIVER
M201 (TRAY LOADING MOTOR)
(OPEN SW) SW201
(UP SW) SW202
CON105
CON401
PS401 GP1S53V
M401 (DISH MOTOR)
D T-T C.B
F ONLY
LED101-104 (CD TRAY LIGHTING)
CON106
C LED C.B
LED101, 104 SEL1810DM
LED 102, 103 SEL1550CM
Q201 DTC123JK LED DRIVER
IC301 NJM78L05A
Q302 DTC124XK RESET
Q301 2SC2712GR
EQ AMP IC302 NJM4558 MD
MUTE
Q306 DTA123JK
Q304 2SC3326B
Q305 DTA123JK
Q303 2SC3326B
CON104
VM (12V)
D-GND
CDON
R CH
A-GND
L CH
FROM MAIN UNIT MAIN BLOCK
Q104 2SA1162 SW GR
Q105 2SC2712GR SW
Q106 2SC2712 GR
Q102 DTC124XK SW
D105 1SS133
D102 BSF10TC
D101 BSF10TC
D104 BSF10TC
D103 BSF10TC
CON107
CN107 FROM MAIN UNIT POWERBOOK
E TR C.B
Q103 2SB1370E REG.
CON108
VIDEO AMP IC102 NJM2244L
J101 VIDEO OUT
EXCEPT G
G ONLY
CON102
R-OUT/CVBS
A-GND
R-OUT
A-OUT
L-OUT
A-GND
P MUTE
EX+5V
D-GND
C2PO
LRCK
BCLK
DATA
EMPHA
CD CLK
RST
C-BUSY/READY
M-BUSY/READY
CM CLK
C-DATA
M-DATA
A-GND
A-GND
A-Vcc
A-Vcc
D-GND
D-Vcc
D-Vcc
D-Vcc
D-GND
TO F VCD V.B CN1
CON103
M-STAND BY
CLOCK
DATA
D-REQ
I-KEY
CD-LED
FROM MAIN UNIT FRONT BLOCK
SIGNAL
ANALOG AUDIO
DIGITAL AUDIO
VIDEO
CONTROL

# SCHEMATIC DIAGRAM-3 (VCD 1/2 : V2)

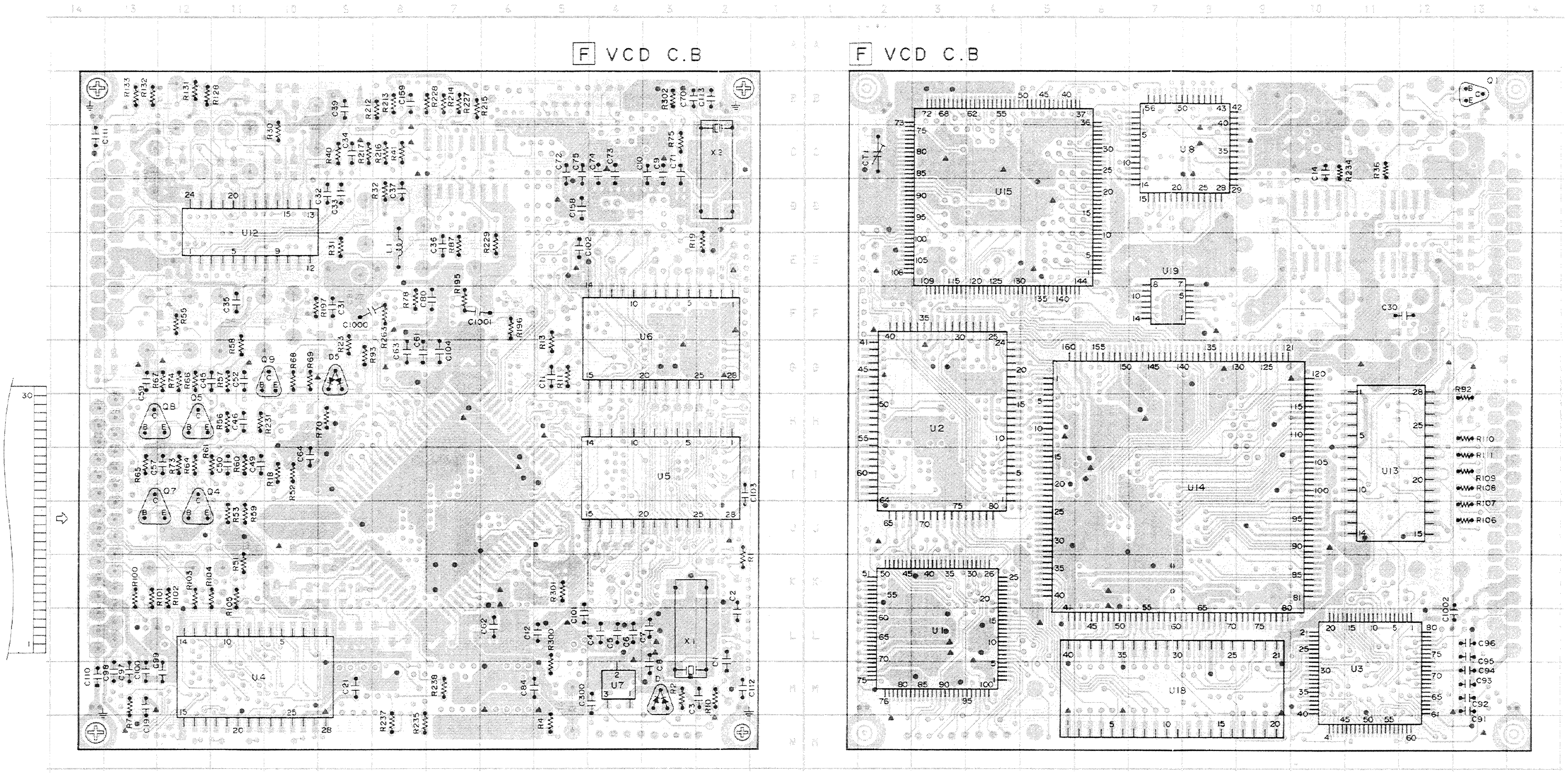

F VCD C.B (1/2)
U14
µPD61010AGO-LBO
VIDEO DECODER
U18
TC514260BJ-70
16-bit DRAM
U15
TC170C100AF
VIDEO DECODER
U8
HD49307
3HC 8-bit DAC
U12
CXA1645M
RGB ENCODER
Q1
2SC4081
AMP
U19
TLC2932IPW
PLL
X2
14.31818MHz
CN1
CVBS (R)
TO
A MAIN VCD C.B
CON102
TO/FROM VCD C.B (2/2)
FROM
VCD C.B (2/2)
16.9M
INTFLBO
SDATAMA
BCKMA
LRCKMA
TO
VCD C.B
(2/2)
+5VA
+5V
VCC
MC-Service
WAVE FORM NO.
SIGNAL
VIDEO
CONTROL
GND SYMBOL
D GND
A GND

FROM A MAIN VCD C.B CON102

## CHEMATIC DIAGRAM-4 (VCD 2/2 : V2)


F VCD C.B (2/2)
U5 M5M5256CFP-70LL RAM
U6 M5M5256CFP-70LL RAM
U1 HD6433042F-06F CPU
U2 µPD65622GF-239-3B9 FORMAT CONVERTER
U13 µPD63210GT AUDIO DECODER
U3 CXD1186CR CD-ROM DECODER
U4 BR6265AF-10LL SRAM
U7 PST572CMT RESET
Q4 RN1441
Q5 RN1441
Q7 RN1441
Q8 RN1441
Q4,5,7,8 MUTE
Q9 2SA1576 MUTE DRIVE
D5 BAP202U
D1 BA115
X1 12MHz
TO/FROM VCD C.B (1/2)
FROM VCD C.B (1/2) INTFLBD
TO Ⓐ MAIN VCD C.B CON102
TO VCD C.B (1/2)
CN1
LOUT
ROUT
MDATA
RST
CLOCK
DVCC
DGND
AVCC
AGND
CDCLK
EMPHA
DATA
BCLK
LRCK
C2PO
CDATA
MBUSY
CBUSY
VCC
+5V
+5VA
RESET
16.9M
① ② ③ ⑨
→ WAVEFORM NO.
SIGNAL
AUDIO ANALOG
AUDIO DIGITAL
VIDEO
CONTROL
GND SYMBOL
D GND
A GND

*MC-Service*


F VCD C.B
F VCD C.B
FROM A MAIN VCD C.B CON102
U12
U6
U5
U4
U7
X1
X2
Q4
Q5
Q6
Q7
Q8
Q9
D5
L1
U15
U8
U19
U2
U14
U13
U1
U18
U3
Q1
CT1

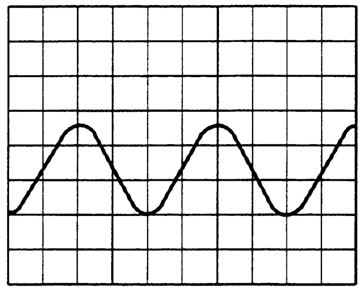
Through-Hole Note

| SIGNAL | VCC | +5V | A GND | D GND |
|---|---|---|---|---|
| ○ | ▲ | △ | ○ | ● |

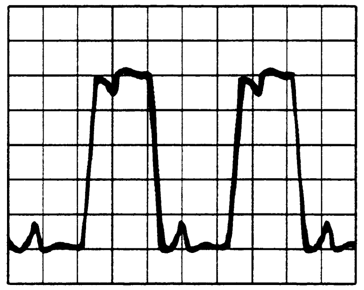
## WAVE FORM

### V2 (NTSC)

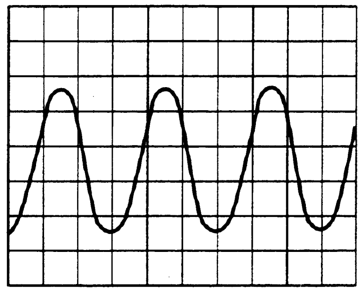
① U1 Pin (66) (EXTAL)
VOLT/DIV: 1V
TIME/DIV: 20nS



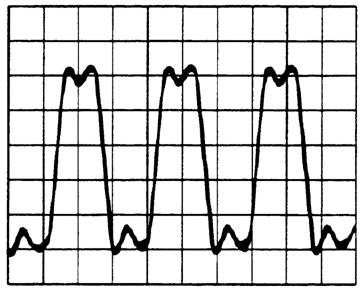
② U2 Pin (70) (FAI)
VOLT/DIV: 1V
TIME/DIV: 20nS



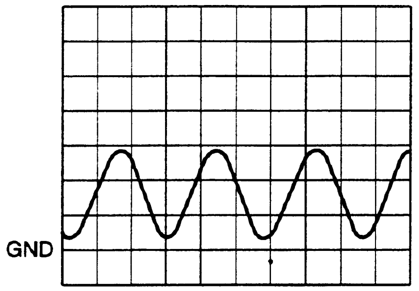
③ U2 Pin ⑱ (16.9M)
VOLT/DIV: 1V
TIME/DIV: 20nS



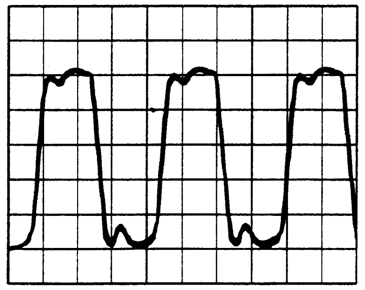
④ U13 Pin ④ (XTI)
VOLT/DIV: 1V
TIME/DIV: 20nS



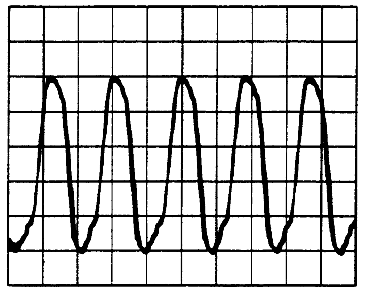
⑤ U12 Pin ⑥ (SC IN)
VOLT/DIV: 1.0V
TIME/DIV: 0.1µS



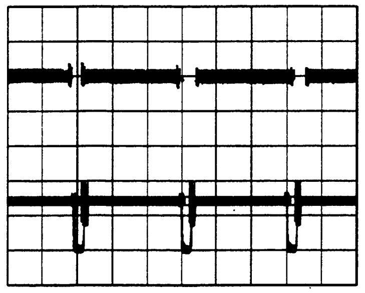
⑥ U14 Pin (86) (VD CLK)
VOLT/DIV: 1V
TIME/DIV: 20nS



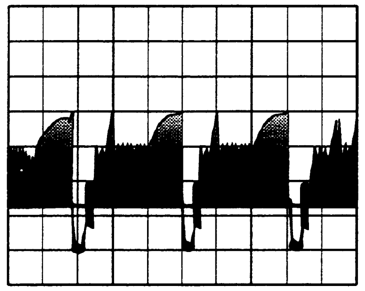
⑦ U14 Pin (135) (CLK)
VOLT/DIV: 1V
TIME/DIV: 20nS



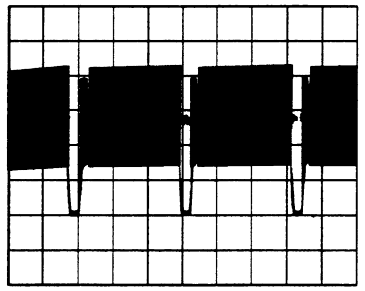
⑧ CN1 Pin ㉚ (CVBS R)
WHITE
VOLT/DIV: 200mV
TIME/DIV: 20µS



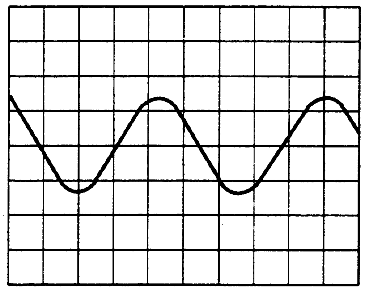
KARAOKE
VOLT/DIV: 200mV
TIME/DIV: 20µS



BLUE
VOLT/DIV: 100mV
TIME/DIV: 20µS



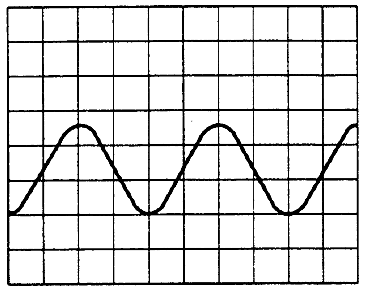
⑨ CN1 Pin ㉖ (L OUT)
CN1 Pin ㉘ (R OUT)
1kHz OUTPUT
VOLT/DIV: 1.0V
TIME/DIV: 0.2mS



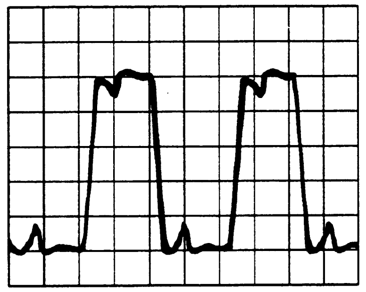
## WAVE FORM

### V3 (PAL)

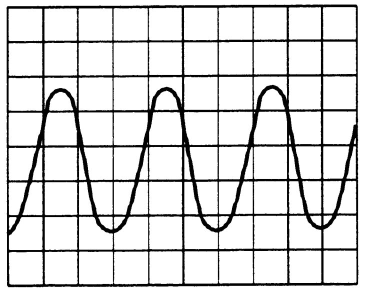
① U1 Pin (66) (EXTAL)
VOLT/DIV: 1V
TIME/DIV: 20nS



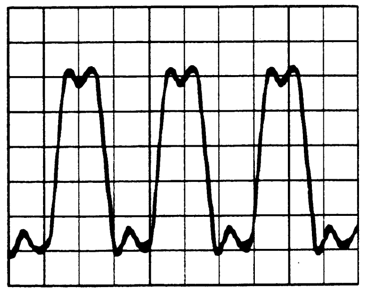
② U2 Pin (70) (FAI)
VOLT/DIV: 1V
TIME/DIV: 20nS



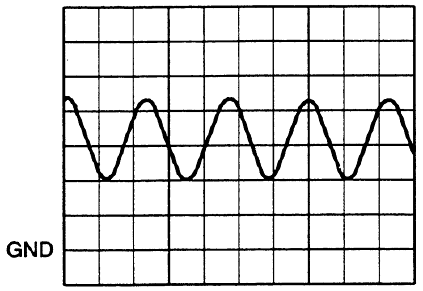
③ U2 Pin ⑱ (16.9M)
VOLT/DIV: 1V
TIME/DIV: 20nS



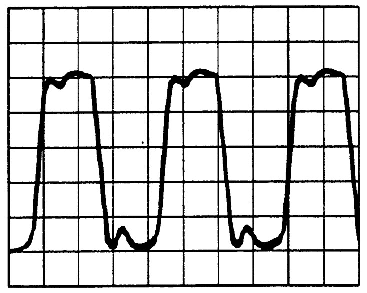
④ U13 Pin ④ (XTI)
VOLT/DIV: 1V
TIME/DIV: 20nS



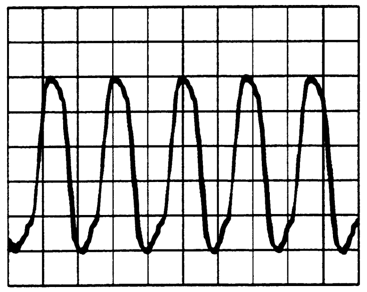
⑤ U12 Pin ⑥ (SC IN)
VOLT/DIV: 1.0V
TIME/DIV: 0.1µS



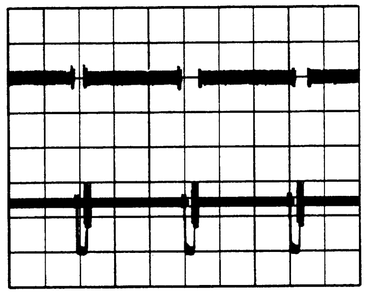
⑥ U14 Pin (86) (VD CLK)
VOLT/DIV: 1V
TIME/DIV: 20nS



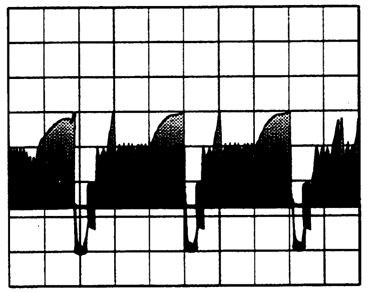
⑦ U14 Pin (135) (CLK)
VOLT/DIV: 1V
TIME/DIV: 20nS



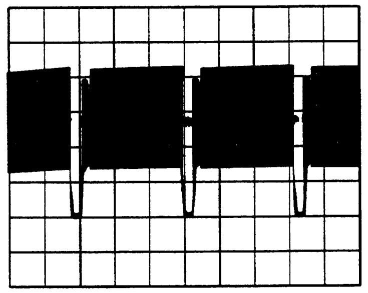
⑧ CN1 Pin ㉚ (CVBS R)
WHITE
VOLT/DIV: 200mV
TIME/DIV: 20µS



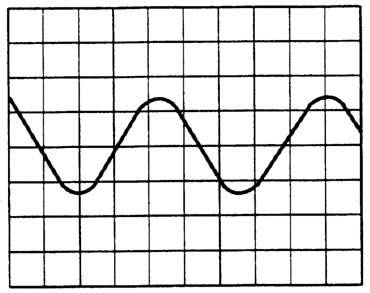
KARAOKE
VOLT/DIV: 200mV
TIME/DIV: 20µS

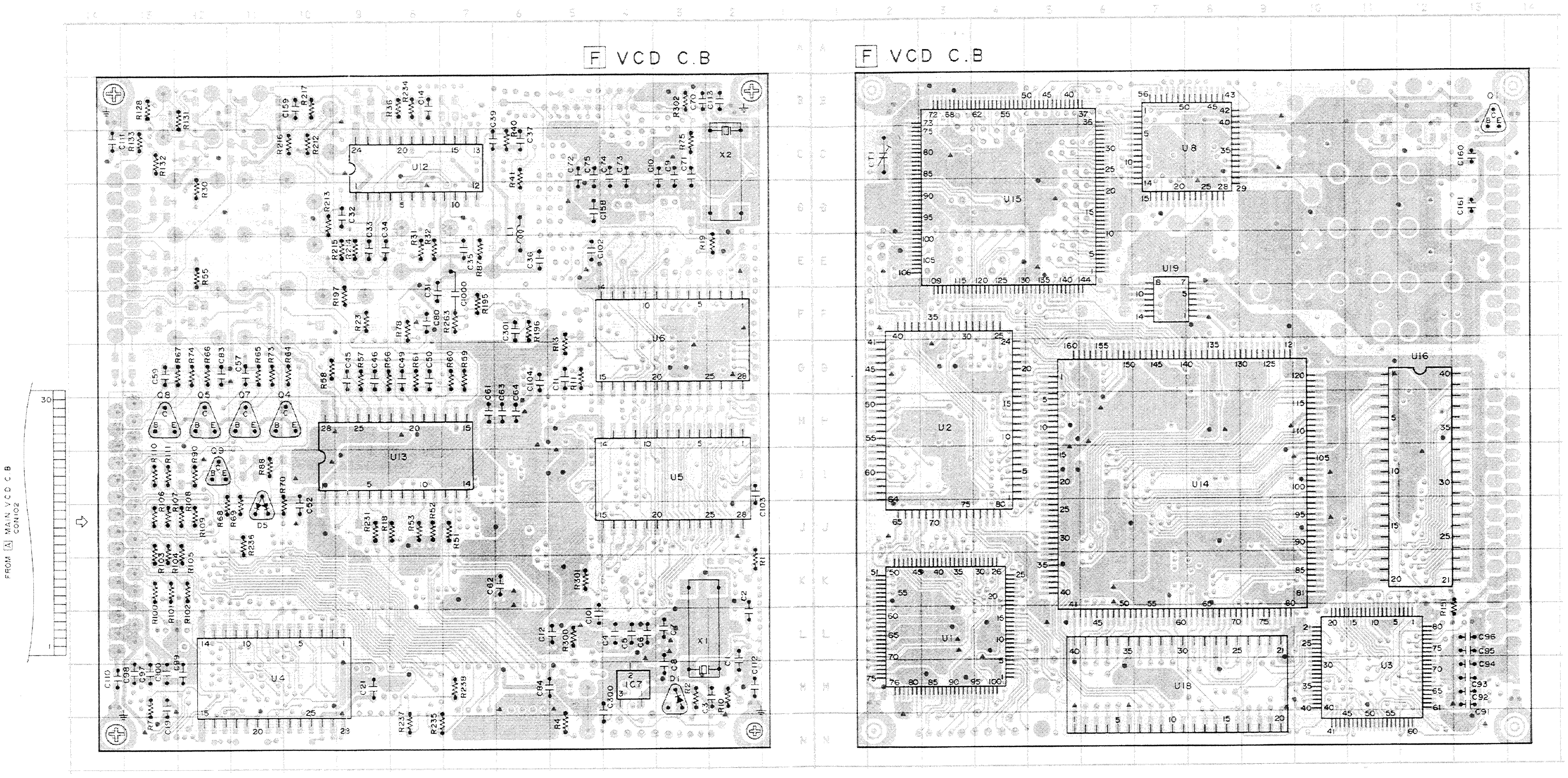


BLUE
VOLT/DIV: 100mV
TIME/DIV: 20µS



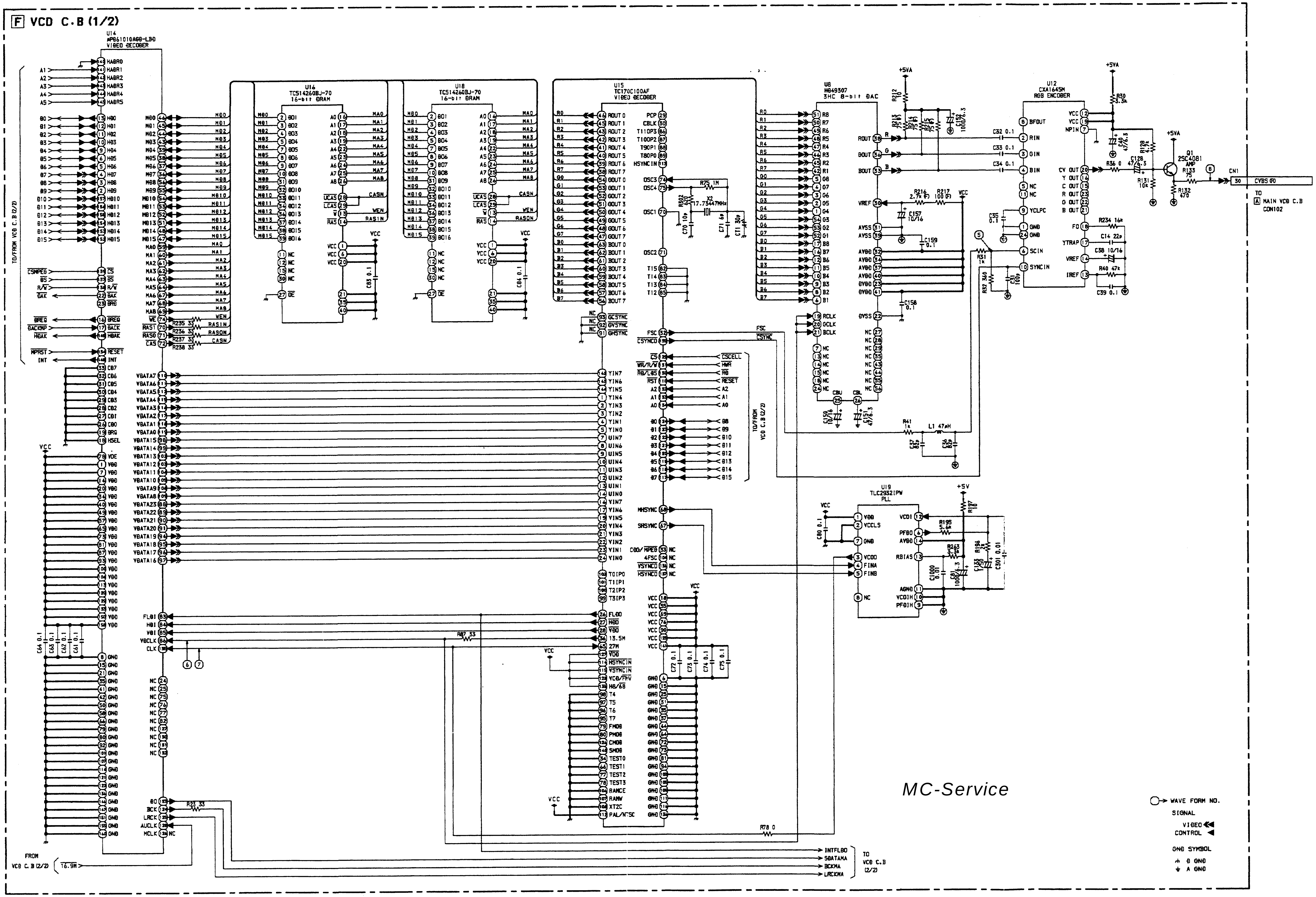
⑨ CN1 Pin ㉖ (L OUT)
CN1 Pin ㉘ (R OUT)
1kHz OUTPUT
VOLT/DIV: 1.0V
TIME/DIV: 0.2mS



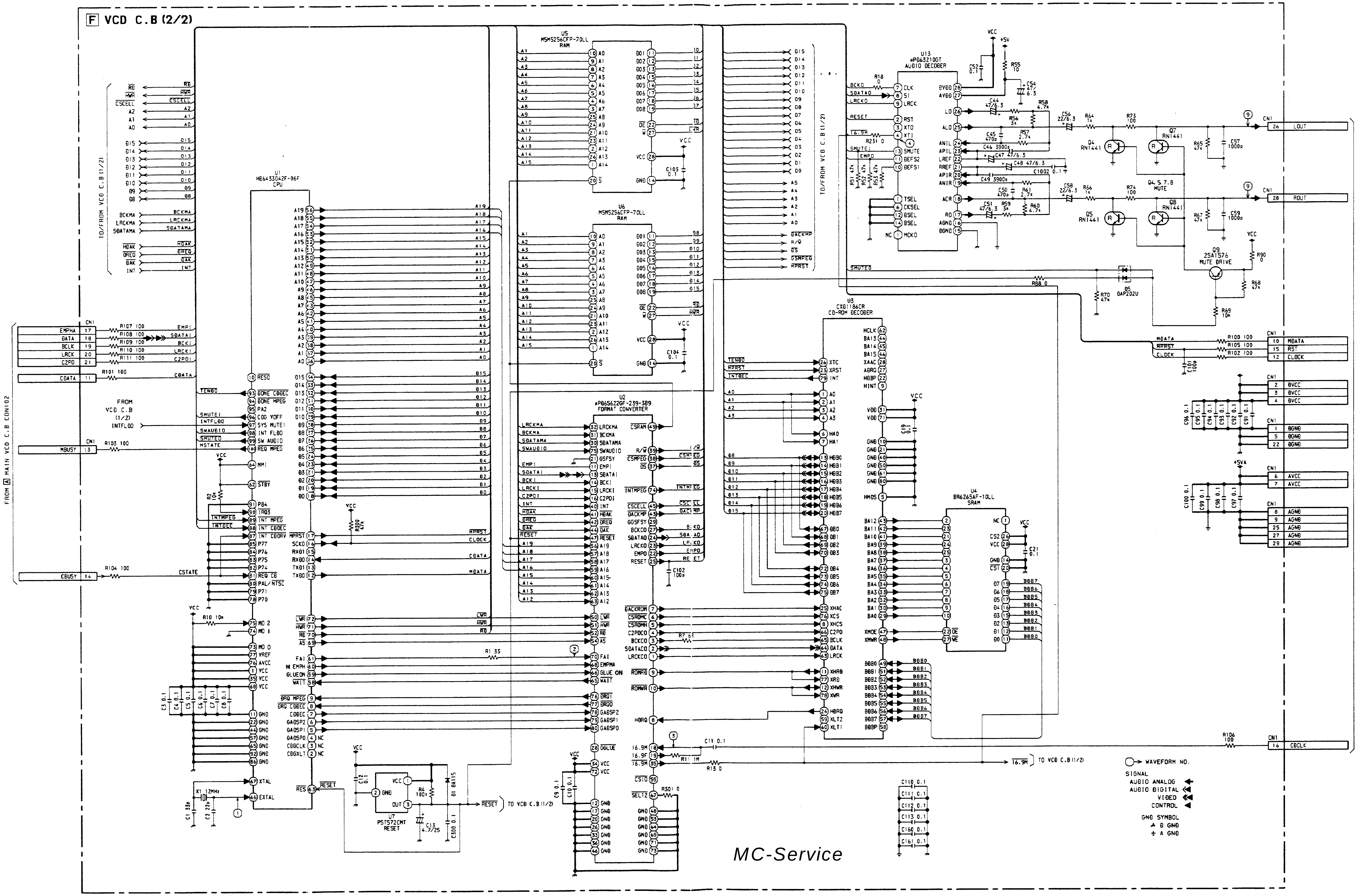

F VCD C.B
F VCD C.B
FROM A MAIN VCD C.B CON102
U12
U13
U4
U5
U6
X1
X2
IC7
D5
Q4
Q5
Q6
Q7
Q8
Q9
U15
U8
U19
U2
U14
U16
U1
U18
U3
Q1

Through-Hole Note

| SIGNAL | VCC | +5V | A GND | D GND |
|---|---|---|---|---|
| ○ | ▲ | △ | ◍ | ● |


F VCD C.B (1/2)
U14 µPD61010A6B-LBD VIDEO DECODER
U14 TC514260BJ-70 16-bit DRAM
U18 TC514260BJ-70 16-bit DRAM
U15 TC170C100AF VIDEO DECODER
U8 HD49307 3HC 8-bit DAC
U12 CXA1645M RGB ENCODER
U19 TLC2932IPW PLL
Q1 2SC4081 AMP
X2 17.734475MHz
L1 47µH
+5VA
+5V
VCC
CN1
CVBS
TO A MAIN VCD C.B CON102
TO/FROM VCD C.B (2/2)
FROM VCD C.B (2/2) 16.9M
INTFLBD
SDATAMA
BCKMA
LRCKMA
TO VCD C.B (2/2)
WAVE FORM NO.
SIGNAL
VIDEO
CONTROL
GND SYMBOL
D GND
A GND

# SCHEMATIC DIAGRAM-6 (VCD 2/2 : V3)


F VCD C.B (2/2)
U1 HD6433042F-06F CPU
U5 M5M5256CFP-70LL RAM
U6 M5M5256CFP-70LL RAM
U2 *PD65622GF-239-3B9 FORMAT CONVERTER
U3 CXD1186CR CD-ROM DECODER
U4 BR6265AF-10LL SRAM
U13 *PD63210GT AUDIO DECODER
U7 PST572CMT RESET
Q4 RN1441
Q5 RN1441
Q7 RN1441
Q8 RN1441
Q4, 5, 7, 8 MUTE
Q9 2SA1576 MUTE DRIVE
D5 DAP202U
D1 DA115
X1 12MHz
TO/FROM VCD C.B (1/2)
FROM VCD C.B (1/2)
FROM A MAIN VCD C.B CON102
TO A MAIN VCD C.B CON102
TO VCD C.B (1/2)
CN1
LOUT
ROUT
MDATA
RST
CLOCK
DVCC
DGND
AVCC
AGND
CDCLK
EMPHA
DATA
BCLK
LRCK
C2PO
CDATA
MBUSY
CBUSY
WAVEFORM NO.
SIGNAL
AUDIO ANALOG
AUDIO DIGITAL
VIDEO
CONTROL
GND SYMBOL
D GND
A GND
MC-Service

# IC DESCRIPTION

## IC, CXD2500BQ

| 端子番号 | 端子名称 | I/O | 機　能　説　明 |
|---|---|---|---|
| 1 | FOK | I | フォーカスOK入力端子。SENS出力と、サーボ・オートシーケンサに用いる。 |
| 2 | FSW | O | スピンドルモータの出力フィルタ切り換え出力。 |
| 3 | MON | O | スピンドルモータのON-OFFコントロール出力。 |
| 4 | MDP | O | スピンドルモータのサーボ制御。 |
| 5 | MDS | O | スピンドルモータのサーボ制御。 |
| 6 | LOCK | O | GFSを、460Hzでサンプリングし、GFSが“H”の時H出力。8回連続“L”の場合“L”出力。 |
| 7 | NC | — | 未使用。 |
| 8 | VCOO | O | アナログEFM PLL用発振回路出力。 |
| 9 | VCOI | I | アナログEFM PLL用発振回路入力。fLOCK=8.6436MHz |
| 10 | TEST | I | TEST用端子通常GND。 |
| 11 | PDO | O | アナログEFM PLL用チャージポンプ出力。 |
| 12 | VSS | — | GND |
| 13 | NC | — | 未使用。 |
| 14 | NC | — | 未使用。 |
| 15 | NC | — | 未使用。 |
| 16 | VPCO | O | バリピッチ用PLLチャージポンプ出力。 |
| 17 | VCKI | I | バリピッチ用外付VCOからの、クロック入力。fc center=16.9344MHz |
| 18 | FILO | O | マスターPLL用（スレーブ=デジタルPLL）フィルター出力。 |
| 19 | FILI | I | マスターPLL用フィルター入力。 |
| 20 | PCO | O | マスターPLL用チャージポンプ出力。 |
| 21 | AVSS | — | アナログGND。 |
| 22 | CLTV | I | マスター用VCOコントロール電圧入力。 |
| 23 | AVDD | — | アナログ電源。(+3.5V) |
| 24 | RF | I | EFM信号入力。 |
| 25 | BIAS | I | アシンメトリー回路定電流入力。 |
| 26 | ASYI | I | アシンメトリーコンパレート電圧入力。 |
| 27 | ASYO | O | EFMフルスイング出力（L=VSS, H=VDD) |
| 28 | ASYE | I | L：アシンメトリー回路OFF H：アシンメトリー回路ON。 |
| 29 | NC | — | 未使用。 |
| 30 | PSSL | I | オーディオデータ出力モード切換入力。“L”でシリアル出力“H”でパラレル出力。 |
| 31 | WDCK | O | 48ビットスロット用D/Aインターフェース。ワードクロック f=2Fs |
| 32 | LRCK | O | 48ビットスロット用D/Aインターフェース。LRクロック f=Fs |
| 33 | VDD |  | 電源（+3.5V)。 |
| 34 | S DATA | O | PSSL=“H”の時DA16（MSB）出力。PSSL=“L”の時48ビットスロットのシリアルデータ。(2s’COMP, MSBファースト) |
| 35 | BCLK | O | PSSL=“H”の時DA15出力。PSSL=“L”の時48ビットスロットのビットクロック。 |
| 36 | NC | O | PSSL=“H”の時DA14出力。PSSL=“L”の時64ビットスロットのシリアルデータ。(2s’COMP, MSBファースト) |
| 37 | NC | O | PSSL=“H”の時DA13出力。PSSL=“L”の時64ビットスロットのビットクロック。 |
| 38 | NC | O | PSSL=“H”の時DA12出力。PSSL=“L”の時64ビットスロットのLRクロック。 |
| 39 | GTOP | O | PSSL=“H”の時DA11出力。PSSL=“L”の時GTOP出力。 |
| 40 | XUGF | O | PSSL=“H”の時DA10出力。PSSL=“L”の時XUGF出力。 |
| 41 | XPLCK | O | PSSL=“H”の時DA09出力。PSSL=“L”の時XPLCK出力。 |
| 42 | GFS | O | PSSL=“H”の時DA08出力。PSSL=“L”の時GFS出力。 |
| 43 | RFCK | O | PSSL=“H”の時DA07出力。PSSL=“L”の時RFCK出力。 |
| 44 | C2PO | O | PSSL=“H”の時DA06出力。PSSL=“L”の時C2P0出力。 |
| 45 | XRAOF | O | PSSL=“H”の時DA05出力。PSSL=“L”の時XRAOF出力。 |
| 46 | MNT3 | O | PSSL=“H”の時DA04出力。PSSL=“L”の時MNT3出力。 |
| 47 | MNT2 | O | PSSL=“H”の時DA03出力。PSSL=“L”の時MNT2出力。 |
| 48 | MNT1 | O | PSSL=“H”の時DA02出力。PSSL=“L”の時MNT1出力。 |
| 49 | MNT0 | O | PSSL=“H”の時DA01出力。PSSL=“L”の時MNT0出力。 |
| 50 | APTR | O | アパーチャー補正用コントロール出力。Rchの時“H”。 |
| 51 | APTL | O | アパーチャー補正用コントロール出力。Lchの時“H”。 |
| 52 | VSS | — | GND |
| 53 | XTAI | I | 16.9344MHzのXtal発振回路入力。又は33.8688MHz入力。 |
| 54 | XTAO | O | 16.9344MHzのXtal発振回路出力。 |
| 55 | XTSL | I | Xtal選択入力端子。Xtalが、16.9344MHzの時“L”。33.8688MHzの時“H”にする。 |
| 56 | FSTT | O | 53, 54端子の、2/3分周出力。バリピッチで変化しない。 |
| 57 | C4M | O | 4.2336MHz出力。バリピッチされた時、同時に変化する。 |
| 58 | C16M | O | 16.2336MHz出力。バリピッチされた時、同時に変化する。 |
| 59 | MD2 | I | Digital-Out ON/OFFコントロール、“H”でON、“L”でOFFする。 |
| 60 | DOUT | O | Digital-Out出力端子。 |
| 61 | EMPH | O | 再生Discがエンファシス有りの時“H”出力。無しの時“L”出力。 |
| 62 | WFCK | O | WFCK（Write Frame Clock）出力。 |
| 63 | SCOR | O | サブコードシンクS0かS1どちらか検出された時“H”出力。 |
| 64 | SBSO | O | SubP～Wのシリアル出力。 |
| 65 | EXCK | I | SBSOリード・アウト用、クロック入力。 |
| 66 | SQSO | O | SubQ 8bit及びPCMピーク、レベルデータ16bit出力。 |
| 67 | SQCK | I | SQSOリード・アウト用、クロック入力。 |
| 68 | MUTE | I | “H”でミュート。“L”で解除。 |
| 69 | SENS | O | SENS出力。CPUへ出力。 |
| 70 | XRST | I | システムリセット。“L”でリセット。 |
| 71 | DATA | I | CPUより、シリアルデータ入力。 |
| 72 | XLAT | I | CPUより、ラッチ入力。立下がりで、シリアルデータをラッチ。 |
| 73 | VDD | — | 電源（+3.5V) |
| 74 | CLOK | I | CPUより、シリアルデータ転送クロック入力。 |
| 75 | SEIN | I | SSPより、センサ入力。 |

| 端子番号 | 端子名称 | I/O | 機　能　説　明 |
|---|---|---|---|
| 76 | CNIN | I | トラックジャンプ数カウント信号入力。 |
| 77 | DATO | O | SSP へシリアルデータ出力。 |
| 78 | XLTO | O | SSP へシリアルデータラッチ出力。立下がりでラッチ。 |
| 79 | CLKO | O | SSP へシリアルデータ転送クロック出力。 |
| 80 | MIRR | I | ミラー信号入力。オートシーケンサで、128 トラック以上のジャンプに使う。 |

## IC, CXA1645M

| 端子番号 | 端子名称 | I/O | 機　能　説　明 |
|---|---|---|---|
| 1 | GND | — | GND 端子です。 |
| 2 | RIN | I | アナログ RGB 信号の入力端子です。 |
| 3 | GIN |  |  |
| 4 | BIN |  |  |
| 5 | NC | — | 未使用。 |
| 6 | SCIN | I | サブキャリア入力端子です。 |
| 7 | NPIN | I | NTSC、PAL モードの切替え端子です。　NTSC：VCC　PAL：GND |
| 8 | BFOUT | O | BF パルスのモニター用出力端子です。75 Ω負荷は駆動できません。 |
| 9 | YCLPC | — | Y 信号クランプ時定数用端子です。 |
| 10 | SYNCIN | I | コンポジットシンク信号の入力端子です。TTL レベルで入力して下さい。<br>L (≦ 0.8V) 時：SYNC 期間 H (≧ 2.0V) |
| 11 | NC | — | 未使用。 |
| 12 | VCC | — | 電源端子です。 |
| 13 | IREF |  | 内部の基準電流を決める端子です。 |
| 14 | VREF | — | 内部の基準電圧端子です。 |
| 15 | COUT | O | クロマ信号出力端子です。 |
| 16 | YOUT | O | Y 信号出力端子です。 |
| 17 | YTRAP | I | Y 信号に含まれるサブキャリア周波数成分によるクロスカラーを低減するための端子です。 |
| 18 | FO | I | 内部フィルターの fo 調整用端子です。<br>NTSC/PAL モードに応じて以下の抵抗を GND 間に接続します。<br>NTSC：20k Ω (± 1%)　PAL：16k Ω (± 1%) |
| 19 | VCC | — | 電源端子です。 |
| 20 | CVOUT | O | コンポジットビデオ信号の出力端子です。 |
| 21 | BOUT | O | アナログ RGB 信号の出力端子です。 |
| 22 | GOUT |  |  |
| 23 | ROUT |  |  |
| 24 | GND | — | GND 端子です。 |

## IC, μ PD78044BGF

| 端子番号 | 端子名称 | I/O | 機　能　説　明 |
|---|---|---|---|
| 1 | DO ON | O | デジタル出力 ON/OFF 出力。 |
| 2～7 | NC | — | 未使用。 |
| 8 | VDD | — | PWR。+5V 電源。 |
| 9 | CM CLK | I/O | MPEG シリアルクロック I/O。 |
| 10 | C DATA | O | MPEG シリアルデータ出力。 |
| 11 | M DATA | I | MPEG シリアルデータ入力。 |
| 12 | O-CLK | O | DSP シリアルクロック出力。 |
| 13 | O-XLT | O | DSP シリアルラッチ出力。 |
| 14 | O-SQCLK | O | DSP サブ Q 読取クロック出力。 |
| 15 | O-DATA | O | DSP シリアルデータ出力。 |
| 16 | I-SQDATA | I | DSP サブ Q データ入力。 |
| 17 | $\overline{\text{RESET}}$ | I | システムリセット入力。 |
| 18 | I-SENS | I | DSP SENS 入力。 |
| 19 | XRST | O | CD システムリセット出力。 |
| 20 | AVSS | — | PWR。A/D コンバータ入力の GND 電位。 |
| 21 | I-FOK | I | ASP FOK 入力。 |
| 22 | I-GFS | I | DSP GFS 入力。 |
| 23 | — | — | GND に接続。 |
| 24 | I-ILSW | I | ピックアップリミットスイッチ入力。 |
| 25 | I-OCSW | I | トレイ OPEN/CLOSE スイッチ入力。 |
| 26～28 | — | — | GND に接続。 |
| 29 | AVDD | — | PWR。A/D コンバータ入力のアナログ電源。 |
| 30 | AVREF | I | PWR。A/D コンバータ入力の基準電圧入力。 |
| 31 | — | — | GND に接続。 |
| 32 | NC | — | 端子オープン。 |
| 33 | VSS | — | PWR。GND 電位。 |
| 34 | X1 | I | CLK。4.19MHz クロック発振用端子。 |
| 35 | X2 | O | CLK。4.19MHz クロック発振用端子。 |
| 36～38 | NC | — | 未使用。 |
| 39 | $\overline{\text{C-BUSY}}$ | O | MPEG ステータス出力。 |
| 40 | MSTBY | I | メインマイコンステータス入力。 |
| 41 | CLOCK | O | メインマイコンシリアルクロック出力。 |
| 42 | DATA | O | メインマイコンシリアルデータ出力。 |
| 43 | D-REQ | O | メインマイコンステータス出力。 |
| 44 | I-KEY | I | メインマイコンシリアルデータ入力。 |
| 45 | SCOR | I | DSP SCOR 入力。 |
| 46 | $\overline{\text{M-BUSY}}$ | I | MPEG ステータス信号入力。 |
| 47 | — | — | GND に接続。 |
| 48 | IC | — | PWR。VSS に接続。 |
| 49 | MUTE L | O | Lch アナログミュート出力。 |
| 50 | MUTE R | O | Rch アナログミュート出力。 |

| 端子番号 | 端子名称 | I/O | 機　能　説　明 |
|---|---|---|---|
| 51 | DSENS | I | ターンテーブルセンサー入力。 |
| 52 | VDD | — | PWR。+5V電源。 |
| 53～64 | NC | — | 未使用。 |
| 65 | O-TOPN | O | トレーOPEN出力。 |
| 66 | O-CLS | O | トレーCLOSE出力。 |
| 67 | O-DFWD | O | ターンテーブル正回転出力。 |
| 68 | O-DRVS | O | ターンテーブル逆回転出力。 |
| 69、70 | NC | — | 未使用。 |
| 71 | VLOAD | — | PWR。FLプルダウン用電源−27V。 |
| 72～76 | NC | — | 未使用。 |
| 77 | VCD | O | VIDEO CD切換出力。 |
| 78 | $\overline{\text{CD FUNC}}$ | O | CDファンクション切換出力。 |
| 79 | G-MUT | O | CDGミュート出力。 |
| 80 | CD ON | O | CDサーボ系電源ON/OFF出力。 |

# IC, CXD1186CR

| 端子番号 | 端子名称 | I/O | 機能説明 |
|---|---|---|---|
| 1〜4 | A0〜A3 | I | CPUアドレス信号。 |
| 5 | HMDS | I | ホストモードセレクト信号。 |
| 6、7 | HA0、HA1 | I | ホストアドレス信号。 |
| 8 | XHCS | I | ホストからのチップセレクト負論理信号。 |
| 9 | HINT | O | ホストへの割り込み要求負論理信号。 |
| 10 | GND | — | 接地端子。 |
| 11 | XHRD | I/O | ホストから、あるいはSCSIコントロールICへのデータ読み出しストローブ信号。 |
| 12 | XHWR | I/O | ホストから、あるいはSCSIコントロールICへのデータ書き込みストローブ信号。 |
| 13〜20 | HDB0〜HDB7 | I/O | ホストデータバス。 |
| 21 | GND | — | 接地端子。 |
| 22 | HDBP | I/O | エラーフラグ・ホストデータバス。 |
| 23 | XRST | I | リセット負論理信号。 |
| 24 | HDRQ | O | ホストへのデータリクエスト正論理信号。あるいはSCSIコントロールICへのDMAアクノリッジ負論理信号。 |
| 25 | XHAC | I | ホストからのDMAアクノリッジ負論理信号。あるいは、SCSIコントロールからのデータリクエスト正論理信号。 |
| 26 | XTC | I | ターミナルカウント負論理信号。 |
| 27 | ADRQ | I | ADPからのDMAリクエスト正論理信号。 |
| 28 | XAAC | O | ADPへのDMAアクノリッジ負論理信号。 |
| 29、30 | BA0、BA1 | O | バッファメモリーアドレス。 |
| 31 | VDD | — | 電源（+5V）供給端子。 |
| 32〜39 | BA2〜BA9 | O | バッファメモリーアドレス。 |
| 40 | GND | — | 接地端子。 |
| 41〜46 | BA10〜BA15 | O | バッファメモリーアドレス。 |
| 47 | XMOE | O | バッファメモリーアウトプットイネーブル負論理信号。 |
| 48 | XMWR | O | バッファメモリーライト負論理信号。 |
| 49 | BDB0 | I/O | バッファメモリーデータバス。 |
| 50 | GND | — | 接地端子。 |
| 51〜57 | BDB1〜BDB7 | I/O | バッファメモリーデータバス。 |
| 58 | BDBP | I/O | バッファメモリーポインタデータバス。 |
| 59 | XTL2 | O | X' TAL発振回路出力端子。 |
| 60 | XTL1 | I | X' TAL発振入力端子。 |
| 61 | GND | — | 接地端子。 |
| 62 | HCLK | O | XTL1の1/2分周クロック信号。 |
| 63 | LRCK | I | CDプレーヤーからのLRクロック。 |
| 64 | DATA | I | CDプレーヤーからのシリアルデータ。 |
| 65 | BCLK | I | CDプレーヤーからのビットクロック。 |
| 66 | C2P0 | I | CDプレーヤーからのC2ポインタ。 |
| 67〜70 | DB0〜DB3 | I/O | CPUデータバス。 |
| 71 | VDD | — | 電源（+5V）供給端子。 |
| 72〜75 | DB4〜DB7 | I/O | CPUデータバス。 |

| 端子番号 | 端子名称 | I/O | 機　能　説　明 |
|---|---|---|---|
| 76 | XCS | I | CPU からのチップセレクト負論理信号。 |
| 77 | XRD | I | CPU の本 IC 内部レジスタ読みだしストローブ負論理信号。 |
| 78 | XWR | I | CPU の本 IC 内部レジスタ書き込みストローブ負論理信号。 |
| 79 | INT | O | CPU に対する割り込み要求信号。 |
| 80 | GND | — | 接地端子。 |

## IC, TLC29321PW

| 端子番号 | 端子名称 | I/O | 機　能　説　明 |
|---|---|---|---|
| 1 | VDD | — | 内部ロジック回路の電源電圧供給端子。 |
| 2 | VCO LS | I | VCO の出力周波数 1/2 デバイダ・セレクト端子。この端子を外部ロジックよりコントロールすることにより、VCO の出力周波数を 1/2 分周して出力することができる。 |
| 3 | VCOO | O | VCO 出力端子。インヒビット時は "L" レベルとなる。 |
| 4、5 | FIN-A、FIN-B | I | 基準周波数（fREF-IN）と外部カウンタからの周波数のエッジ差検出のための 2 入力端子。通常、fREF-IN を FIN-A 端子に入力し、外部カウンタからの分周、逓倍された周波数を FIN-B 端子に入力する。 |
| 6 | PFDO | O | PFD 出力端子。 |
| 7 | GND | — | 内部ロジック回路のグランド端子。 |
| 8 | NC | — | 内部未接続端子。 |
| 9 | PFDIH | I | PFD インヒビット機能コントロール端子。 |
| 10 | VCOIH | I | VCO インヒビット機能コントロール端子。 |
| 11 | A GND | — | VCO グランド端子。 |
| 12 | VCOI | I | VCO コントロール電圧入力端子。通常、PLL では外部で構成される LPF から VCO 発振制御電圧を入力する。 |
| 13 | RBIAS | I | VCO 発振周波数設定用バイアス抵抗接続端子。内部 VCO の発振動作のためのバイアス供給と、発振周波数の設定・調整用に、この端子と電源ライン間にバイアス抵抗を接触する。 |
| 14 | A VDD | — | VCO の電源電圧供給端子。 |

## IC, HD49307

| 端子番号 | 端子名称 | I/O | 機 能 説 明 |
|---|---|---|---|
| 1～5 | G4～G8 | I | デジタル入力端子。 |
| 6 | B1 | — | 無接続端子。 |
| 7 | NC | I | デジタル入力端子。 |
| 8～12 | B2～B6 | I | デジタル入力端子。 |
| 13～15 | NC | — | 無接続端子。 |
| 16、17 | B7、B8 | I | デジタル入力端子。 |
| 18 | NC | — | 無接続端子。 |
| 19 | RCLK | I | Rch クロック入力。 |
| 20 | GCLK | I | Gch クロック入力。 |
| 21 | BCLK | I | Bch クロック入力。 |
| 22 | DVSS | — | デジタル接地。 |
| 23 | DVDD | — | デジタル電源。 |
| 24 | NC | — | 無接続端子。 |
| 25 | CBU | — | 位相補償容量接続端子。 |
| 26 | CBL | — | バイパスコンデンサ接続端子。 |
| 27～29 | NC | — | 無接続端子。 |
| 30 | VRREF | I | 基準電圧入力端子。 |
| 31 | AVSS | — | アナログ接地。 |
| 32 | AVDD | — | アナログ電源。 |
| 33 | BOUT | O | Bch アナログ信号出力端子。 |
| 34 | AVDD | — | アナログ電源。 |
| 35 | NC | — | 無接続端子。 |
| 36 | GOUT | O | Gch アナログ信号出力端子。 |
| 37 | AVDD | — | アナログ電源。 |
| 38 | ROUT | O | Rch アナログ信号出力端子。 |
| 39 | AVSS | — | アナログ接地。 |
| 40 | AVDD | — | アナログ電源。 |
| 41 | DVDD | — | デジタル電源。 |
| 42 | R1 | I | デジタル入力端子。 |
| 43、44 | NC | — | 無接続端子。 |
| 45～51 | R2～R8 | I | デジタル入力端子。 |
| 52～54 | G1～G3 | I | デジタル入力端子。 |
| 55、56 | NC | — | 無接続端子。 |

## IC, μPD61010

| 端子番号 | 端子名称 | I/O | 機能説明 |
|---|---|---|---|
| 1 | VDD | — | ＋5V 電源。 |
| 2～6 | HD9～5 | I/O | ホストデータバス。 |
| 7 | VDD | — | ＋5V 電源。 |
| 8 | GND | — | GND 端子。 |
| 9～13 | HD4～0 | I/O | ホストデータバス。 |
| 14 | VDD | — | ＋5V 電源。 |
| 15 | GND | — | GND 端子。 |
| 16 | $\overline{\text{DREQ}}$ | O | DMA リクエスト信号。 |
| 17 | $\overline{\text{DACK}}$ | I | DMA アクノリッジ信号。 |
| 18 | HSEL | I | ホスト CPU アクセス方法の選択信号。 |
| 19 | DRQ | I | CD-ROM デコーダからのビットストリーム入力用データ入力リクエスト。 |
| 20 | VDD | — | ＋5V 電源。 |
| 21 | GND | — | GND 端子。 |
| 22 | $\overline{\text{DAK}}$ | O | CD-ROM デコーダからのビットストリーム入力用データ入力応答。また、符号入力用の DMA リクエスト信号。 |
| 23 | $\overline{\text{DRD}}$ | O | ビットストリーム入力許可信号。 |
| 24、25 | NC | — | 未使用。 |
| 26～33 | CD0～7 | I | CD-ROM デコーダからのビットストリーム入力用データバス。 |
| 34 | VDD | — | ＋5V 電源。 |
| 35 | GND | — | GND 端子。 |
| 36～39 | MD7～4 | I/O | DRAM データバス |
| 40 | VDD | — | ＋5V 電源。 |
| 41、42 | GND | — | GND 端子。 |
| 43～46 | MD3～0 | I/O | DRAM データバス |
| 47、48 | MD15、14 | I/O | DRAM データバス |
| 49 | VDD | — | ＋5V 電源。 |
| 50 | GND | — | GND 端子。 |
| 51～56 | MD13～8 | I/O | DRAM データバス |
| 57 | VDD | — | ＋5V 電源。 |
| 58 | GND | — | GND 端子。 |
| 59～64 | MA0～5 | O | DRAM アドレスバス |
| 65 | VDD | — | ＋5V 電源。 |
| 66 | GND | — | GND 端子。 |
| 67～69 | MA6～8 | O | DRAM アドレスバス。 |
| 70 | $\overline{\text{RAS 1}}$ | O | DRAM RAS 信号。 |
| 71 | $\overline{\text{RAS 0}}$ | O | DRAM RAS 信号。 |
| 72 | $\overline{\text{CAS}}$ | O | DRAM CAS 信号。 |
| 73 | VDD | — | ＋5V 電源。 |
| 74 | $\overline{\text{WE}}$ | O | DRAM へのライトイネーブル。 |
| 75～77 | NC | — | 未使用 |
| 78 | VOE | I | ビデオデータ出力イネーブル。 |

| 端子番号 | 端子名称 | I/O | 機能説明 |
|---|---|---|---|
| 79、80 | GND | — | GND端子。 |
| 81 | VDD | — | ＋5V電源。 |
| 82 | NC | — | 未使用。 |
| 83 | FLDI | I | フィールド信号(odd/even)。 |
| 84 | HDI | I | 水平同期信号。 |
| 85 | VDI | I | 垂直同期信号。 |
| 86 | VDCLK | I | ビデオデータ出力クロック(13.5MHz)。 |
| 87 | VDD | — | ＋5V電源。 |
| 88〜91 | VDATA23〜20 | O | ビデオデータ出力バス。 |
| 92 | GND | — | GND端子。 |
| 93 | VDD | — | ＋5V電源。 |
| 94〜97 | VDATA19〜16 | O | ビデオデータ出力バス。 |
| 98、99 | VDATA15、14 | O | ビデオデータ出力バス。 |
| 100 | VDD | — | ＋5V電源。 |
| 101 | GND | — | GND端子。 |
| 102〜105 | VDATA13〜10 | O | ビデオデータ出力バス。 |
| 106 | VDD | — | ＋5V電源。 |
| 107 | GND | — | GND端子。 |
| 108〜112 | VDATA9〜5 | O | ビデオデータ出力バス。 |
| 113 | VDD | — | ＋5V電源。 |
| 114 | GND | — | GND端子。 |
| 115〜119 | VDATA4〜0 | O | ビデオデータ出力バス。 |
| 120 | VDD | — | ＋5V電源。 |
| 121、122 | GND | — | GND端子。 |
| 123 | DO | O | オーディオデータ出力バス。 |
| 124 | BCK | O | オーディオデータ出力クロック。 |
| 125 | LRCK | O | L/Rチャンネル識別信号。 |
| 126 | MCLK | O | オーディオマスタクロック。 |
| 127 | NC | — | 未使用。 |
| 128 | AUCLK | I | 内部オーディオデコーダのシステムクロック。 |
| 129 | VDD | — | ＋5V電源。 |
| 130〜132 | NC | — | 未使用。 |
| 133 | VDD | — | ＋5V電源。 |
| 134 | $\overline{\text{RESET}}$ | I | リセット信号。 |
| 135 | CLK | I | システムクロック(27MHz)。 |
| 136 | GND | — | GND端子。 |
| 137 | $\overline{\text{DS}}$ | I | データストローブ信号。 |
| 138 | R/$\overline{\text{W}}$ | I | リード／ライトの選択用。 |
| 139 | $\overline{\text{CS}}$ | I | チップセレクト。 |
| 140〜145 | HADR0〜5 | I | ホストアドレスバス。 |
| 146、147 | GND | — | GND端子。 |

| 端子番号 | 端子名称 | I/O | 機　能　説　明 |
|---|---|---|---|
| 148 | INT | O | 割り込み信号。 |
| 149 | $\overline{\text{HDAK}}$ | O | バスサイクル応答信号。 |
| 150 | VDD | — | ＋5V電源。 |
| 151 | GND | — | GND端子。 |
| 152～157 | HD15～10 | I/O | ホストデータバス。 |
| 158 | VDD | — | ＋5V電源。 |
| 159、160 | GND | — | GND端子。 |

## IC, μ PD63210GT

| 端子番号 | 端子名称 | I/O | 機　能　説　明 |
|---|---|---|---|
| 1 | TSEL | I | テスト選択入力。 |
| 2 | RST | I | リセット入力。 |
| 3 | XTO | O | 発振用水晶接続。 |
| 4 | XTI | I | 発振用水晶接続。 |
| 5 | MCKO | O | マスタ・クロック出力。 |
| 6 | CKSEL | I | クロック選択入力。 |
| 7 | CLK | I | ビット・クロック入力。 |
| 8 | SI | I | データ入力。 |
| 9 | LRCK | I | LRクロック入力。 |
| 10 | DEFS1 | I | ディエンファシス切り替え入力1。 |
| 11 | DEFS2 | I | ディエンファシス切り替え入力2。 |
| 12 | DSEL | I | 倍速再生切り替え入力。 |
| 13 | SMUTE | I | ソフト・ミュート切り替え入力。 |
| 14 | BSEL | I | データ・ビット長選択入力。 |
| 15 | DGND | — | ディジタル・グランド。 |
| 16 | AGND | — | アナログ・グランド。 |
| 17 | RO | O | D/Aコンバータ出力（Rチャネル）。 |
| 18 | AOR | O | フィルタ・アンプ出力（Rチャネル）。 |
| 19 | ANIR | I | フィルタ・アンプ−側入力（Rチャネル）。 |
| 20 | APIR | I | フィルタ・アンプ＋側入力（Rチャネル）。 |
| 21 | RREF | — | リファレンス（Rチャネル）。 |
| 22 | LREF | — | リファレンス（Lチャネル）。 |
| 23 | APIL | I | フィルタ・アンプ＋側入力（Lチャネル）。 |
| 24 | ANIL | I | フィルタ・アンプ−側入力（Lチャネル）。 |
| 25 | AOL | O | フィルタ・アンプ出力（Lチャネル）。 |
| 26 | LO | O | D/Aコンバータ出力（Lチャネル）。 |
| 27 | AVDD | — | アナログ電源。 |
| 28 | DVDD | — | ディジタル電源。 |

IC, TC170C100AF

| 端子番号 | 端子名称 | I/O | 機能説明 |
|---|---|---|---|
| 1～5 | YIN4～0 | I | MPEG CHIPからのY信号。 |
| 6 | GND | — | GND端子。 |
| 7～14 | UIN7～0 | I | MPEG CHIPからのU信号。 |
| 15 | GND | — | GND端子。 |
| 16、17 | VIN7、6 | I | MPEG CHIPからのV信号。 |
| 18 | VCC | — | 電源端子。 |
| 19～24 | VIN5～0 | I | MPEG CHIPからのV信号。 |
| 25 | GND | — | GND端子。 |
| 26 | FLDO | O | フィールドのODD/EVEN出力。 |
| 27 | $\overline{\text{HDO}}$ | O | MPEG CHIPへの$\overline{\text{HSYNC}}$信号。 |
| 28 | $\overline{\text{VDO}}$ | O | MPEG CHIPへの$\overline{\text{VSYNC}}$信号。 |
| 29 | PCP | O | クランプ信号出力。 |
| 30 | CBLK | O | ブランク信号出力。(DACの種類により使用) |
| 31 | GND | — | GND端子。 |
| 32 | FSC | O | サブキャリア出力。(NTSC: 14.31818MHz、PAL: 17.734475MHzの4分周) |
| 33 | CDG/$\overline{\text{MPEG}}$ | O | 外部RGBビデオセレクターへのCD-G/MPEG PLAY切り替え信号。 |
| 34 | TEST0 | I | 動作モード設定端子。 |
| 35 | GND | — | GND端子。 |
| 36 | 13.5M | O | 13.5MHz出力。 |
| 37 | GND | — | GND端子。 |
| 38～43 | R OUT7～2 | O | Y/R信号出力。(出力形式は、Y/R切り替え可能) |
| 44 | GND | — | GND端子。 |
| 45、46 | R OUT1、0 | O | Y/R信号出力。(出力形式は、Y/R切り替え可能) |
| 47～54 | G OUT7～0 | O | U/G信号出力。(出力形式は、U/G切り替え可能) |
| 55 | VCC | — | 電源端子。 |
| 56～63 | B OUT7～0 | O | V/B信号出力。(出力形式は、V/B切り替え可能) |
| 64 | GND | — | GND端子。 |
| 65 | 27M | I | 27MHz出力。 |
| 66 | TEST1 | I | 動作モード設定端子。 |
| 67 | SHSYNC | O | PLL同期CLK比較クロック。 |
| 68 | MHSYNC | O | PLL同期CLKリファレンスクロック。 |
| 69 | VCC | — | 電源端子。 |
| 70 | OSC1 | I | NTSC対応時の14.31818MHzの入力ポート。(水晶発振) |
| 71 | OSC2 | O | NTSC: 14.31818MHzの水晶発振出力側端子。 |
| 72、73 | GND | — | GND端子。 |
| 74 | OSC3 | I | PAL対応時の17.734475MHzの入力ポート。(水晶発振) |
| 75 | OSC4 | O | PAL: 17.734475MHzの水晶発振出力側端子。 |
| 76 | VCC | — | 電源端子。 |
| 77、78 | TEST2、3 | I | 動作モード設定端子。 |
| 79 | FMOD | I | FLDO出力のHL反転の切り替え信号。 |
| 80 | PMOD | I | PCP出力のHL反転の切り替え信号。 |

| 端子番号 | 端子名称 | I/O | 機　能　説　明 |
|---|---|---|---|
| 81 | GND | — | GND端子。 |
| 82〜85 | T15〜T12 | I | RAMチェック時は、RAMデータ入力端子15-12。 |
| 86 | T11OP3 | I/O | アウトポート端子3-0 (アドレス4) RAMチェック時は、RAMデータ入力端子11-8。 |
| 87 | T10OP2 | I/O | アウトポート端子3-0 (アドレス4) RAMチェック時は、RAMデータ入力端子11-8。 |
| 88 | T9OP1 | I/O | アウトポート端子3-0 (アドレス4) RAMチェック時は、RAMデータ入力端子11-8。 |
| 89 | T8OP0 | I/O | アウトポート端子3-0 (アドレス4) RAMチェック時は、RAMデータ入力端子11-8。 |
| 90 | VCC | — | 電源端子。 |
| 91 | $\overline{\text{GHSYNC}}$ | I | CD-Gデコーダーからの$\overline{\text{HSYNC}}$信号。 |
| 92 | $\overline{\text{GVSYNC}}$ | I | CD-Gデコーダーからの$\overline{\text{VSYNC}}$信号。 |
| 93 | $\overline{\text{GCSYNC}}$ | I | CD-Gデコーダーからの$\overline{\text{CSYNC}}$信号。 |
| 94 | GND | — | GND端子。 |
| 95〜98 | T7〜4 | I | RAMチェック時は、RAMデータ入力端子7-4。 |
| 99 | T3IP3 | I | インポート端子3-0 (アドレス5) RAMチェック時は、RAMデータ入力端子3-0。 |
| 100 | T2IP2 | I | インポート端子3-0 (アドレス5) RAMチェック時は、RAMデータ入力端子3-0。 |
| 101 | T1IP1 | I | インポート端子3-0 (アドレス5) RAMチェック時は、RAMデータ入力端子3-0。 |
| 102 | T0IP0 | I | インポート端子3-0 (アドレス5) RAMチェック時は、RAMデータ入力端子3-0。 |
| 103 | GND | — | GND端子。 |
| 104 | 4FSC | O | NTSC: 14.31818MHz、PAL: 17.734475MHzのバッファー出力。 |
| 105 | GND | — | GND端子。 |
| 106 | RAMCE | I | スタセル内部RAM、ROMのチェック用のチップイネーブル信号。(通常“L”固定) |
| 107 | RAMW | I | スタセル内部RAM、ROMのチェック用のリード・ライト信号。(通常“L”固定) |
| 108 | XT2C | I | XT2C入力。(HSYNCDLのディレイに使用する) |
| 109 | GND | — | GND端子。 |
| 110 | $\overline{\text{RST}}$ | I | リセット信号の入力ポート。 |
| 111 | GND | — | GND端子。 |
| 112 | PAL/$\overline{\text{NTSC}}$ | I | PAL/$\overline{\text{NTSC}}$の切り替えポート。 |
| 113 | HSYNCIN | O | $\overline{\text{HSYNCIN}}$の反転出力。 |
| 114 | $\overline{\text{HSYNCIN}}$ | I | VSRからの$\overline{\text{HSYNC}}$信号。(FMVエンジン対応時に限る) |
| 115 | $\overline{\text{VSYNCIN}}$ | I | VSCからの$\overline{\text{VSYNC}}$信号。(FMVエンジン対応時に限る) |
| 116 | GND | — | GND端子。 |
| 117〜124 | D7〜0 | I/O | CPUデータバス信号。 |
| 125 | VCC | — | 電源端子。 |
| 126 | CMOD | I | CBLK出力のHL反転の切り替え信号。 |
| 127 | $\overline{\text{VOD}}$ | I | ビデオアウトプットディセーブル。 |
| 128 | VCD/$\overline{\text{FMV}}$ | I | VIDEO CD/FMVエンジン切り替えポート。 |

| 端子番号 | 端子名称 | I/O | 機能説明 |
|---|---|---|---|
| 129 | $\overline{\text{CS}}$ | I | チップセレクト信号。 |
| 130 | $\overline{\text{RD}}$/$\overline{\text{LDS}}$ | I | CPUからのREAD信号。$\overline{\text{RD}}$ (H8対応時)、$\overline{\text{LDS}}$ (68000対応時) |
| 131 | $\overline{\text{WR}}$/R/$\overline{\text{W}}$ | I | CPUからの$\overline{\text{WRITE}}$信号。$\overline{\text{WR}}$ (H8対応時)、R/$\overline{\text{W}}$ (68000対応時) |
| 132～134 | A2～0 | I | CPUからのアドレス信号。 |
| 135 | H8/$\overline{\text{68}}$ | I | CPU H8-325/68000切り替えポート。 |
| 136 | GND | — | GND端子。 |
| 137 | $\overline{\text{HSYNCO}}$ | O | 水平同期出力。 |
| 138 | $\overline{\text{VSYNCO}}$ | O | 垂直同期出力。 |
| 139 | $\overline{\text{CSYNCO}}$ | O | コンポジット同期出力、ビデオエンコーダーへの$\overline{\text{CSYNC}}$信号。 |
| 140 | SMOD | I | SYNC信号出力の13.5MHzの↑↓選択。$\overline{\text{HDO}}$、$\overline{\text{VDO}}$、$\overline{\text{HSYNCO}}$、$\overline{\text{VSYNCO}}$、$\overline{\text{CSYNCO}}$、SHSYNC、PCP、CBLK、FLDOの最終段で選択可能。(但し、$\overline{\text{HSYNCO}}$、$\overline{\text{VSYNCO}}$、$\overline{\text{CSYNCO}}$についてはCD-GデコーダのSYNC出力の時には、対応しません。) |
| 141 | VCC | — | 電源端子。 |
| 142～144 | YIN7～5 | I | MPEG CHIPからのY信号。 |

## IC, HD6433042F06F

| 端子番号 | 端子名称 | I/O | 機能説明 |
|---|---|---|---|
| 1 | VCC | I | 電源。 |
| 2 | CDG DIN | O | CD-Gデコーダシリアルデータ信号。 |
| 3 | CDG XLT | O | CD-Gデコーダデータラッチ信号。 |
| 4 | CDG CLK | O | CD-Gデコーダクロック信号。 |
| 5～7 | GADSP0～2 | O | ゲートアレイDSPフォーマット0～2。 |
| 8 | $\overline{\text{DRQ CDDEC}}$ | I | CD-ROMデコーダデータリクエスト信号。 |
| 9 | $\overline{\text{DRQ MPEG}}$ | I | MPEGデコーダデータリクエスト信号。 |
| 10 | $\overline{\text{RESO}}$ | O | 外部リセット出力。 |
| 11 | GND | I | GND。 |
| 12 | TXD0 | O | シリアルインターフェース。(TXD) |
| 13 | TXD1 | O | テスト用CXD。 |
| 14 | RXD0 | I | シリアルインターフェース。(RXD) |
| 15 | RXD1 | I | テスト用RXD。 |
| 16 | SCK0 | I/O | シリアルインターフェース。(SCK) |
| 17 | $\overline{\text{MPRST}}$ | O | ペリフェラルリセット。L: RESET ON |
| 18～21 | D0～D3 | I/O | データバス0～3。 |
| 22 | GND | I | GND。 |
| 23～34 | D4～D15 | I/O | データバス4～15。 |
| 35 | VCC | I | 電源。 |
| 36～43 | A0～A7 | O | アドレスバス0～7。 |
| 44 | GND | I | GND。 |
| 45～56 | A8～A19 | O | アドレスバス8～19。 |
| 57 | GND | I | GND。 |
| 58 | $\overline{\text{WAIT}}$ | I | 外部からウェイト信号。 |
| 59 | GLUE ON | O | DMAグルー回路イネーブル。0: OFF 1: ON |
| 60 | M EMPH | O | MPEG AUDIOエンファシス。0: OFF 1: ON |
| 61 | FAI | O | システムクロック出力。 |
| 62 | $\overline{\text{STBY}}$ | I | スタンバイ (LOWレベルでハードウェアスタンバイモード)。 |
| 63 | $\overline{\text{RES}}$ | I | リセット入力 (LOWでリセット)。 |
| 64 | NMI | I | ノンマスカブル割り込みを要求します。(マスク不可能な割り込みを要求) |
| 65 | GND | I | GND。 |
| 66 | EXTAL | I | 水晶発振子を接続します。 |
| 67 | XTAL | I | 水晶発振子を接続します。 |
| 68 | VCC | I | 電源。 |
| 69 | $\overline{\text{AS}}$ | O | アドレスストローブ信号。 |
| 70 | $\overline{\text{RD}}$ | O | 外部アドレスリードイネーブル信号。 |
| 71 | $\overline{\text{HWR}}$ | O | 外部アドレスハイライトイネーブル信号。 |
| 72 | $\overline{\text{LWR}}$ | O | 外部アドレスロウライトイネーブル信号。 |
| 73～75 | MOD0～MOD2 | I | モード端子、この端子で動作モードを設定します。 |
| 76 | AVCC | I | AD変換器及びDA変換器の電源端子。 |
| 77 | VREF | I | AD変換器及びDA変換器の基準電圧入力端子。 |

| 端子番号 | 端子名称 | I/O | 機　能　説　明 |
|---|---|---|---|
| 78、79 | P70、P71 | I | テスト用インポート0、1。 |
| 80 | PAL/$\overline{\text{NTSC}}$ | I | PAL/NTSC ステータス。0 : NTSC 1 : PAL |
| 81 | $\overline{\text{REQ CD}}$ | I | シリアルインターフェース。(REQ CD) |
| 82～85 | P74～P77 | I | リザーブ。 |
| 86 | AGND | I | AD 変換器及び DA 変換器のグランド端子。 |
| 87 | $\overline{\text{INT CDDRV}}$ | I | シリアル I/F 割り込み。 |
| 88 | $\overline{\text{INT CDDEC}}$ | I | CD-ROM デコーダ割り込み。 |
| 89 | $\overline{\text{INT MPEG}}$ | I | MPEG デコーダ割り込み。 |
| 90 | $\overline{\text{IRQ3}}$ | I | リザーブ。 |
| 91 | P84 | I | リザーブ。 |
| 92 | GND | I | GND。 |
| 93 | $\overline{\text{DONE CDDEC}}$ | O | CD-ROM デコーダ DONE 信号。 |
| 94 | $\overline{\text{DONE MPEG}}$ | O | MPEG デコーダ DONE 信号。 |
| 95 | CDG VOFF | O | CD-G デコーダビデオ OFF 信号。1 : VOFF |
| 96 | SYS MUTE1 | O | オーディオミュート1信号。1 : ミュート ON |
| 97 | INTFLDO | I | EVEN/ODD 入力信号。0 : EVEN 1 : ODD |
| 98 | SW AUDIO | O | オーディオ切り換え信号。0 : CD-G/DA 1 : MPEG |
| 99 | $\overline{\text{SYS MUTE0}}$ | O | オーディオミュート0信号。0 : ミュート ON |
| 100 | $\overline{\text{REQ MPEG}}$ | O | シリアルインターフェース。(REQ MPEG) |

## IC, μ PD65622GF-239-3B9

| 端子番号 | 端子名称 | I/O | 機 能 説 明 |
|---|---|---|---|
| 1 | LRCKCD | O | CXD1186へのメインデータ信号です。 |
| 2 | SDATACD | O | |
| 3 | BCKCD | O | |
| 4 | C2POCD | O | |
| 5 | $\overline{\mathrm{CSROMH}}$ | O | CXD1186 (HOST側) へのチップセレクト信号です。 |
| 6 | $\overline{\mathrm{CSROMC}}$ | O | CXD1186 (CPU側) へのチップセレクト信号です。 |
| 7 | $\overline{\mathrm{DACKROM}}$ | O | CXD1186へのDMAアクノリッジ信号です。 |
| 8 | HDRQ | I | CXD1186からのデータ転送要求信号です。この信号はアクティブ “H” です。 |
| 9 | $\overline{\mathrm{ROMRD}}$ | O | CXD1186のリード/ライト信号です。 |
| 10 | $\overline{\mathrm{ROMWR}}$ | O | CXD1186のリード/ライト信号です。 |
| 11 | EMPHI | I | CDドライブからのメインデータを入力する為の信号です。 |
| 12 | GND | — | GND端子。 |
| 13 | SDATAI | I | CDドライブからのメインデータを入力する為の信号です。 |
| 14 | BCKI | I | |
| 15 | LRCKI | I | |
| 16 | C2POI | I | |
| 17 | GND | — | GND端子。 |
| 18 | 16.9M | I | 16.9344MHzの発振回路入力信号です。 |
| 19 | 16.9F | O | 16.9344MHzの発振回路出力信号です。 |
| 20 | GND | — | GND端子。 |
| 21 | GSFSY | I | CDドライブからのサブデータを入力する為のWRITE FRAME CLOCK信号です。 |
| 22 | EMPO | O | CXD1186へのメインデータ信号です。 |
| 23 | LRCKO | O | オーディオDACへのオーディオデータ信号です。 |
| 24 | SDATAO | O | オーディオDACへのオーディオデータ信号です。 |
| 25 | RESET | O | アクティブ “H” のリセット信号です。 |
| 26 | GND | — | GND端子。 |
| 27 | BCKCO | O | オーディオDACへのオーディオデータ信号です。 |
| 28 | $\overline{\mathrm{GGLUE}}$ | I | GSFSY入力のグルー回路を有効にする為の入力信号です。 |
| 29 | $\overline{\mathrm{GGSFSY}}$ | O | 未使用。 |
| 30 | SDATAMA | I | μ PD61010からのオーディオデータ信号です。 |
| 31 | BCKMA | I | |
| 32 | LRCKMA | I | |
| 33 | GND | — | GND端子。 |
| 34 | VCC | — | 電源端子。 |
| 35 | $\overline{\mathrm{16.9M}}$ | O | 16.9344MHzの出力信号です。 |
| 36 | GND | — | GND端子。 |
| 37 | $\overline{\mathrm{DS}}$ | O | μ PD61010への制御信号です。 |
| 38 | $\overline{\mathrm{CSMPEG}}$ | O | μ PD61010へのチップセレクト信号です。 |
| 39 | $\overline{\mathrm{R/W}}$ | O | μ PD61010への制御信号です。 |
| 40 | INT | I | μ PD61010からのデータ割り込み要求信号です。この信号はアクティブ “H” です。 |

| 端子番号 | 端子名称 | I/O | 機　能　説　明 |
|---|---|---|---|
| 41 | $\overline{\text{HDAK}}$ | I | μPD61010からのデータアクノリッジ信号です。 |
| 42 | $\overline{\text{DREQ}}$ | I | μPD61010からのD-RAMデータ転送要求信号です。 |
| 43 | $\overline{\text{DACKMP}}$ | O | μPD61010へのDMAアクノリッジ信号です。 |
| 44 | $\overline{\text{DAK}}$ | I | μPD61010からのビットストリームデータ転送要求信号です。 |
| 45 | $\overline{\text{CSCELL}}$ | O | スタンダードセルへのチップセレクト信号です。 |
| 46 | GND | — | GND端子。 |
| 47 | $\overline{\text{RESET}}$ | I | システムリセット信号です。 |
| 48 | GND | — | GND端子。 |
| 49 | $\overline{\text{CSRAM}}$ | O | システムRAMへのチップセレクト信号です。 |
| 50 | $\overline{\text{LWR}}$ | I | CPUからのロアデータライト信号です。 |
| 51 | $\overline{\text{HWR}}$ | I | CPUからのアッパーデータライト信号です。 |
| 52 | $\overline{\text{RD}}$ | I | CPUからのデータリード信号です。 |
| 53 | GND | — | GND端子。 |
| 54 | $\overline{\text{AS}}$ | I | CPUからのアドレスストローブ信号です。 |
| 55 | $\overline{\text{CSIO}}$ | O | オプション用のチップセレクト信号です。 |
| 56～63 | A19～A12 | I | CPUからのアドレス信号です。 |
| 64 | GND | — | GND端子。 |
| 65 | $\overline{\text{WAIT}}$ | O | CPUへのウエイト信号です。 |
| 66 | GLUEON | I | CPUDMACの不具合を回避する為のグルーロジックを有効にする為の信号です。“H”でこの回路が有効になります。 |
| 67 | $\overline{\text{SEL12}}$ | I | CPUクロックの12MHz/16MHzを選択する入力信号です。 |
| 68 | EMPMA | I | μPD61010からのオーディオデータ信号です。 |
| 69 | GND | — | GND端子。 |
| 70 | FAI | I | CPUからの基本クロック（12MHz）です。 |
| 71 | GND | — | GND端子。 |
| 72 | VCC | — | 電源端子。 |
| 73 | GND | — | GND端子。 |
| 74 | $\overline{\text{INTMPEG}}$ | O | CXD1186の割り込み要求信号です。 |
| 75 | SWAUDIO | I | MPEGオーディオとCD-DAオーディオの切り替え信号です。 |
| 76 | $\overline{\text{DRQ1}}$ | O | μPD61010のDMA転送要求信号です。 |
| 77 | $\overline{\text{DRQ0}}$ | O | CXD1186のDMA転送要求信号です。 |
| 78～80 | GADSP2～0 | I | CDドライブからのメインデータをフォーマット変換するためのフォーマットセレクト信号です。 |

## IC, CXD2500BQ

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | FOK | I | Focus OK input terminal. Used for SENS output and servo auto sequencer. |
| 2 | FSW | O | Spindle motor output filter selection output. |
| 3 | MON | O | Spindle motor ON-OFF control output. |
| 4 | MDP | O | Spindle motor servo control. |
| 5 | MDS | O | Spindle motor servo control. |
| 6 | LOCK | O | H output when GFS is sampled at 460 Hz and GFS is H. L output when L is continuously 8 times. |
| 7 | NC | — | Not used. |
| 8 | VCOO | O | Oscillator circuit output for analog EFM PLL. |
| 9 | VCOI | I | Oscillator circuit input for analog EFM PLL. fLOCK = 8.6436 MHz. |
| 10 | TEST | I | TEST terminal. Normally GND. |
| 11 | PDO | O | Charge pump output for analog EFM PLL. |
| 12 | VSS | — | GND. |
| 13 | NC | — | Not used. |
| 14 | NC | — | Not used. |
| 15 | NC | — | Not used. |
| 16 | VPCO | O | Charge pump output for vari-pitch PLL. |
| 17 | VCKI | I | Clock input from external VCO for vari-pitch. fc center = 16.9344 MHz. |
| 18 | FILO | O | Filter output for master PLL (slave = digital PLL). |
| 19 | FILI | I | Filter input for master PLL. |
| 20 | PCO | O | Charge pump output for |
| 21 | AVSS | — | Analog GND. |
| 22 | CLTV | I | VCO control voltage input for master. |
| 23 | AVDD | — | Analog power supply. (+3.5 V) |
| 24 | RF | I | EFM signal input. |
| 25 | BIAS | I | Asymmetry circuit constant current input. |
| 26 | ASYI | I | Asymmetry comparate voltage input. |
| 27 | ASYO | O | EFM full swing output (L = Vss, H = VDD.) |
| 28 | ASYE | I | L: asymmetry circuit OFF, H: asymmetry circuit ON. |
| 29 | NC | — | Not used. |
| 30 | PSSL | I | Audio data output mode selection input. Serial output at L, parallel output at H. |
| 31 | WDCK | O | D/A interface for 48-bit slot. Word clock f = 2 Fs. |
| 32 | LRCK | O | D/A interface for 48-bit slot. LR clock f = Fs. |
| 33 | VDD |  | Power supply. (+3.5 V) |
| 34 | S DATA | O | DA16 (MSB) output when PSSL = H. 48-bit slot serial data when PSSL = L. (2's COMP, MSB first). |
| 35 | BCLK | O | DA15 output when PSSL = H. 48-bit slot bit clock when PSSL = L. |
| 36 | NC | O | DA14 output when PSSL = H. 64-bit slot serial data when PSSL = L. (2's COMP, MSB first). |
| 37 | NC | O | DA13 output when PSSL = H. 64-bit slot bit clock when PSSL = L. |
| 38 | NC | O | DA12 output when PSSL = H. 64-bit slot LR clock when PSSL = L. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 39 | GTOP | O | DA11 output when PSSL = H. GTOP output when PSSL = L. |
| 40 | XUGF | O | DA10 output when PSSL = H. XUGF output when PSSL = L. |
| 41 | XPLCK | O | DA09 output when PSSL = H. XPLCK output when PSSL = L. |
| 42 | GFS | O | DA08 output when PSSL = H. GFS output when PSSL = L. |
| 43 | RFCK | O | DA07 output when PSSL = H. RFCK output when PSSL = L. |
| 44 | C2PO | O | DA06 output when PSSL = H. C2P0 output when PSSL = L. |
| 45 | XRAOF | O | DA05 output when PSSL = H. XRAOFoutput when PSSL = L. |
| 46 | MNT3 | O | DA04 output when PSSL = H. MNT3 output when PSSL = L. |
| 47 | MNT2 | O | DA03 output when PSSL = H. MNT2 output when PSSL = L. |
| 48 | MNT1 | O | DA02 output when PSSL = H. MNT1 output when PSSL = L. |
| 49 | MNT0 | O | DA01 output when PSSL = H. MNT0 output when PSSL = L. |
| 50 | APTR | O | Aperture correction control output. H when R channel. |
| 51 | APTL | O | Aperture correction control output. H when L channel. |
| 52 | VSS | — | GND. |
| 53 | XTAI | I | Input to 16.9344 MHz X'tal oscillator circuit. or 33.8688 MHz input. |
| 54 | XTAO | O | 16.9344 MHz X'tal oscillator output. |
| 55 | XTSL | I | X'tal selection input. L when X'tal is 16.9344 MHz. H when 33.8688 MHz. |
| 56 | FSTT | O | 2/3 divider output of the pins 53 and 54. Does not change with vari-pitch. |
| 57 | C4M | O | 4.2336 MHz output. When vari-pitch is performed, it changes too. |
| 58 | C16M | O | 16.2336 MHz output. When vari-pitch is performed, it changes too. |
| 59 | MD2 | I | Digital-out ON/OFF control. ON at H, OFF at L. |
| 60 | DOUT | O | Digital-out terminal. |
| 61 | EMPH | O | H output when the playback disc has emphasis. L output without emphasis. |
| 62 | WFCK | O | WFCK (Write Frame Clock) output. |
| 63 | SCOR | O | H output when S0 or S1 of the subcode sync is detected. |
| 64 | SBSO | O | Serial output of Sub P to W. |
| 65 | EXCK | I | Clock input for SBSO read out. |
| 66 | SQSO | O | SubQ 8-bit and PCM peak level data. 16-bit output. |
| 67 | SQCK | I | Clock input for SQSO readout. |
| 68 | MUTE | I | Mute at H. Release at L. |
| 69 | SENS | O | SENS output. Output to CPU. |
| 70 | XRST | I | System reset. Reset at L. |
| 71 | DATA | I | Serial data input from CPU. |
| 72 | XLAT | I | Latch input from CPU. Latches serial data at fall-down edge. |
| 73 | VDD | — | Power supply (+3.5 V). |
| 74 | CLOK | I | Serial data transfer clock input from CPU. |
| 75 | SEIN | I | Sensor input from SSP. |
| 76 | CNIN | I | Track jump number counted signal input. |
| 77 | DATO | O | Serial data output to SSP. |
| 78 | XLTO | O | Serial data latch output to SSP. Latches at fall-down edge. |
| 79 | CLKO | O | Serial data transfer clock output to SSP. |
| 80 | MIRR | I | Mirror signal input. Used for jump of 128 track or more at auto sequencer. |

## IC, CXA1645M

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | GND | — | GND. |
| 2 | RIN | I | Analog RGB input terminals. |
| 3 | GIN | | |
| 4 | BIN | | |
| 5 | NC | — | N. C. |
| 6 | SCIN | I | Subcarrier input terminal. |
| 7 | NPIN | I | NTSC, PAL mode select terminal. NTSC: Vcc, PAL: GND. |
| 8 | BFOUT | O | Output terminal to monitor the BF pulse. Unable to drive 75 Ω load. |
| 9 | YCLPC | — | External time constant for Y signal clamp is connected to this terminal. |
| 10 | SYNCIN | I | Composite sync signal input terminal. Input at TTL level.<br>SYNC period at L ( ≦ 0.8 V). H ( ≧ 2.0 V). |
| 11 | NC | — | N. C. |
| 12 | VCC | — | Power supply terminal. |
| 13 | IREF | | Terminal which determines internal reference current. |
| 14 | VREF | — | Internal reference voltage terminal. |
| 15 | COUT | O | Chroma signal output terminal. |
| 16 | YOUT | O | Y signal output terminal. |
| 17 | YTRAP | I | Terminal to reduce cross-color due to subcarrier frequency component included in the Y signal. |
| 18 | FO | I | fo adjustment terminal of internal filter. The following resistor is connected between GND depending upon NTSC or PAL mode.<br>NTSC: 20 kΩ (±1%) PAL: 16 kΩ (±1%). |
| 19 | VCC | — | Power supply terminal. |
| 20 | CVOUT | O | Composite video signal output terminal. |
| 21 | BOUT | O | Analog RGB signal output terminal |
| 22 | GOUT | | |
| 23 | ROUT | | |
| 24 | GND | — | GND. |

## IC, µPD78044BGF

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | DO ON | O | Digital output. ON/OFF output. |
| 2~7 | NC | — | Not used. |
| 8 | VDD | — | PWR. +5 V power supply. |
| 9 | CM CLK | I/O | Serial clock I/O. |
| 10 | C DATA | O | Serial data output. |
| 11 | M DATA | I | Serial data input. |
| 12 | O-CLK | O | DSP serial clock output. |
| 13 | O-XLT | O | DSP serial latch output. |
| 14 | O-SQCLK | O | DSP sub Q read-out clock output. |
| 15 | O-DATA | O | DSP serial data output. |
| 16 | I-SQDATA | I | DSP sub Q data input. |
| 17 | $\overline{\text{RESET}}$ | I | System reset input. |
| 18 | I-SENS | I | DSP SENS input. |
| 19 | XRST | O | CD system reset output. |
| 20 | AVSS | — | PWR. GND potential of A/D converter input. |
| 21 | I-FOK | I | ASP FOK input. |
| 22 | I-GFS | I | DSP GFS input. |
| 23 | — | — | Connected GND. |
| 24 | I-ILSW | I | Pickup limit switch input. |
| 25 | I-OCSW | I | Tray OPEN/CLOSE switch input. |
| 26~28 | — | — | Connected GND. |
| 29 | AVDD | — | PWR. Analog power supply of A/D converter input. |
| 30 | AVREF | I | PWR. Reference voltage input of A/D converter input. |
| 31 | — | — | Connected GND. |
| 32 | NC | — | Open terminal. |
| 33 | VSS | — | PWR. GND potential. |
| 34 | X1 | I | CLK. Terminal for 4.19 MHz clock oscillator. |
| 35 | X2 | O | CLK. Terminal for 4.19 MHz clock oscillator. |
| 36~38 | NC | — | Not used. |
| 39 | $\overline{\text{C-BUSY}}$ | O | MPEG status output. |
| 40 | MSTBY | I | Main microprocessor status input. |
| 41 | CLOCK | O | Main microprocessor serial clock output. |
| 42 | DATA | O | Main microprocessor serial data output. |
| 43 | D-REQ | O | Main microprocessor status output. |
| 44 | I-KEY | I | Main microprocessor serial data input. |
| 45 | SCOR | I | DSP SCOR input. |
| 46 | $\overline{\text{M-BUSY}}$ | I | MPEG status signal input. |
| 47 | — | — | Connected GND. |
| 48 | IC | — | PWR. Connected to Vss. |
| 49 | MUTE L | O | L channel analog mute output. |
| 50 | MUTE R | O | R channel analog mute output. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 51 | DSENS | I | Turntable sensor input. |
| 52 | VDD | — | PWR. +5 V power supply. |
| 53~64 | NC | — | Not used. |
| 65 | O-TOPN | O | Tray OPEN output. |
| 66 | O-CLS | O | Tray CLOSE output. |
| 67 | O-DFWD | O | Turntable forward rotation output. |
| 68 | O-DRVS | O | Turntable reverse rotation output. |
| 69, 70 | NC | — | Not used. |
| 71 | VLOAD | — | PWR. -27 V power supply for FL pull-down. |
| 72~76 | NC | — | Not used. |
| 77 | VCD | O | VIDEO CD selection output. |
| 78 | $\overline{\text{CD FUNC}}$ | O | CD function selection output. |
| 79 | G-MUT | O | CDG mute output. |
| 80 | CD ON | O | FL. Digit output for FL display. |

## IC, CXD1186CR

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1~4 | A0~A3 | I | CPU address signal. |
| 5 | HMDS | I | Host mode select signal. |
| 6, 7 | HA0, HA1 | I | Host address signal. |
| 8 | XHCS | I | Chip select negative logic signal from the host. |
| 9 | HINT | O | Interrupt request negative logic signal to the host. |
| 10 | GND | — | GND. |
| 11 | XHRD | I/O | Data read strobe signal from the host or to the SCSI control IC. |
| 12 | XHWR | I/O | Data write strobe signal from the host or to the SCSI control IC. |
| 13~20 | HDB0~HDB7 | I/O | Host data bus. |
| 21 | GND | — | GND. |
| 22 | HDBP | I/O | Error flag. Host data bus. |
| 23 | XRST | I | Reset negative logic signal. |
| 24 | HDRQ | O | Data request positive logic signal to the host. Or DMA acknowledge negative logic signal to the SCSI control IC. |
| 25 | XHAC | I | DMA acknowledge negative logic signal from the host Or data request positive logic signal from the SCSI control. |
| 26 | XTC | I | Terminal count negative logic signal. |
| 27 | ADRQ | I | DMA request positive logic signal from ADP. |
| 28 | XAAC | O | DMA acknowledge negative logic signal to ADP. |
| 29, 30 | BA0, BA1 | O | Buffer memory address. |
| 31 | VDD | — | Power supply (+5 V) terminal. |
| 32~39 | BA2~BA9 | O | Buffer memory address. |
| 40 | GND | — | GND. |
| 41~46 | BA10~BA15 | O | Buffer memory address. |
| 47 | XMOE | O | Buffer memory output enable negative logic signal. |
| 48 | XMWR | O | Buffer memory write negative logic signal. |
| 49 | BDB0 | I/O | Buffer memory data bus. |
| 50 | GND | — | GND. |
| 51~57 | BDB1~BDB7 | I/O | Buffer memory data bus. |
| 58 | BDBP | I/O | Buffer memory pointer data bus. |
| 59 | XTL2 | O | X'TAL oscillator circuit output terminal. |
| 60 | XTL1 | I | X'TAL oscillator input terminal. |
| 61 | GND | — | GND. |
| 62 | HCLK | O | X'TAL 1 divided-by-2 clock signal. |
| 63 | LRCK | I | LR clock from CD player. |
| 64 | DATA | I | Serial data from CD player. |
| 65 | BCLK | I | Bit clock from CD player. |
| 66 | C2P0 | I | C2 pointer from CD player. |
| 67~70 | DB0~DB3 | I/O | CPU data bus. |
| 71 | VDD | — | Power supply (+5 V) terminal. |
| 72~75 | DB4~DB7 | I/O | CPU data bus. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 76 | XCS | I | Chip select negative logic signal from CPU. |
| 77 | XRD | I | IC internal register read-out strobe negative logic signal from CPU. |
| 78 | XWR | I | IC internal register write strobe negative logic signal from CPU. |
| 79 | INT | O | Interrupt request signal to CPU. |
| 80 | GND | — | GND. |

## IC, TLC29321PW

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | VDD | — | Power supply terminal to the internal logic circuit. |
| 2 | VCO LS | I | VCO output frequency divide-by-2 divider select terminal. The VCO output frequency can be divided by 2 and output as this terminal is controlled by external logic. |
| 3 | VCOO | O | VCO output terminal. Goes to low level during inhibit. |
| 4, 5 | FIN-A, FIN-B | I | 2 input terminal for edge difference detection between the reference frequency (fREF-IN) and the frequency from external counter. The fREF-IN is input to the FIN-A terminal normally, and the divided or multiplied frequency from external counter is input to the FIN-B terminal. |
| 6 | PFDO | O | PFD output terminal. |
| 7 | GND | — | Internal logic circuit GND terminal. |
| 8 | NC | — | N.C. |
| 9 | PFDIH | I | PFD inhibit function control terminal. |
| 10 | VCOIH | I | VCO inhibit function control terminal. |
| 11 | A GND | — | VCO GND. |
| 12 | VCOI | I | VCO control voltage input. The VCO oscillator control voltage is input from an external low-pass filter to form PLL. |
| 13 | RBIAS | I | External resistor is connected to this terminal for setting the VCO oscillation frequency. A bias resistor is connected between this terminal and power supply line to supply bias for internal VCO oscillation and for setting and adjusting the oscillating frequency. |
| 14 | A VDD | — | VCO power supply voltage terminal. |

## IC, HD49307

| Pin No. | Pin No. | I/O | Description |
|---|---|---|---|
| 1~5 | G4~G8 | I | Digital input terminal. |
| 6 | B1 | — | N. C. |
| 7 | NC | I | Digital input terminal. |
| 8~12 | B2~B6 | I | Digital input terminal. |
| 13~15 | NC | — | N. C. |
| 16, 17 | B7, B8 | I | Digital input terminal. |
| 18 | NC | — | N. C. |
| 19 | RCLK | I | R channel clock input. |
| 20 | GCLK | I | G channel clock input. |
| 21 | BCLK | I | B channel clock input. |
| 22 | DVSS | — | Digital GND. |
| 23 | DVDD | — | Digital power supply. |
| 24 | NC | — | N. C. |
| 25 | CBU | — | External phase compensation capacitance connection terminal. |
| 26 | CBL | — | Bypass capacitance connection terminal. |
| 27~29 | NC | — | N. C. |
| 30 | VRREF | I | Reference voltage input terminal. |
| 31 | AVSS | — | Analog GND. |
| 32 | AVDD | — | Analog power supply. |
| 33 | BOUT | O | B channel analog signal output terminal. |
| 34 | AVDD | — | Analog power supply. |
| 35 | NC | — | N. C. |
| 36 | GOUT | O | G channel analog signal output terminal. |
| 37 | AVDD | — | Analog power supply. |
| 38 | ROUT | O | R channel analog signal output terminal. |
| 39 | AVSS | — | Analog GND. |
| 40 | AVDD | — | Analog power supply. |
| 41 | DVDD | — | Digital power supply. |
| 42 | R1 | I | Digital input terminal. |
| 43~44 | NC | — | N. C. |
| 45~51 | R2~R8 | I | Digital input terminal. |
| 52~54 | G1~G3 | I | Digital input terminal. |
| 55, 56 | NC | — | N. C. |

## IC, µPD61010

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | VDD | — | +5 V power supply. |
| 2~6 | HD9~5 | I/O | Host data bus. |
| 7 | VDD | — | +5 V power supply. |
| 8 | GND | — | GND. |
| 9~13 | HD4~0 | I/O | Host data bus. |
| 14 | VDD | — | +5 V power supply. |
| 15 | GND | — | GND. |
| 16 | $\overline{\text{DREQ}}$ | O | DMA request signal. |
| 17 | $\overline{\text{DACK}}$ | I | DMA acknowledge signal. |
| 18 | HSEL | I | Signal to select the host CPU access method. |
| 19 | DRQ | I | Data input request for bit stream input from CD-ROM decoder. |
| 20 | VDD | — | +5 V power supply. |
| 21 | GND | — | GND. |
| 22 | $\overline{\text{DAK}}$ | O | Data input response for bit stream input from CD-ROM decoder, or DMA input request for code input. |
| 23 | $\overline{\text{DRD}}$ | O | Bit stream input approval signal. |
| 24, 25 | NC | — | N. C. |
| 26~33 | CD0~7 | I | Data bus for bit stream input from CD-ROM decoder. |
| 34 | VDD | — | +5 V power supply. |
| 35 | GND | — | GND. |
| 36~39 | MD7~4 | I/O | DRAM data bus. |
| 40 | VDD | — | +5 V power supply. |
| 41, 42 | GND | — | GND. |
| 43~46 | MD3~0 | I/O | DRAM data bus. |
| 47, 48 | MD15, 14 | I/O | DRAM data bus. |
| 49 | VDD | — | +5 V power supply. |
| 50 | GND | — | GND. |
| 51~56 | MD13~8 | I/O | DRAM data bus. |
| 57 | VDD | — | +5 V power supply. |
| 58 | GND | — | GND. |
| 59~64 | MA0~5 | O | DRAM address bus. |
| 65 | VDD | — | +5 V power supply. |
| 66 | GND | — | GND. |
| 67~69 | MA6~8 | O | DRAM address bus. |
| 70 | $\overline{\text{RAS 1}}$ | O | DRAM RAS signal. |
| 71 | $\overline{\text{RAS 0}}$ | O | DRAM RAS signal. |
| 72 | $\overline{\text{CAS}}$ | O | DRAM CAS signal. |
| 73 | VDD | — | +5 V power supply. |
| 74 | $\overline{\text{WE}}$ | O | Write enable to DRAM. |
| 75~77 | NC | — | N. C. |
| 78 | VOE | I | Video data output enable. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 79, 80 | GND | — | GND. |
| 81 | VDD | — | +5 V power supply. |
| 82 | NC | — | N. C. |
| 83 | FLDI | I | Field signal (odd/even) |
| 84 | HDI | I | Horizontal sync signal. |
| 85 | VDI | I | Vertical sync signal. |
| 86 | VDCLK | I | Video data output clock (13.5 MHz). |
| 87 | VDD | — | +5 V power supply. |
| 88~91 | VDATA23~20 | O | Video data output bus. |
| 92 | GND | — | GND. |
| 93 | VDD | — | +5 V power supply. |
| 94~97 | VDATA19~16 | O | Video data output bus. |
| 98, 99 | VDATA15, 14 | O | Video data output bus. |
| 100 | VDD | — | +5 V power supply. |
| 101 | GND | — | GND. |
| 102~105 | VDATA13~10 | O | Video data output bus. |
| 106 | VDD | — | +5 V power supply. |
| 107 | GND | — | GND. |
| 108~112 | VDATA9~5 | O | Video data output bus. |
| 113 | VDD | — | +5 V power supply. |
| 114 | GND | — | GND. |
| 115~119 | VDATA4~0 | O | Video data output bus. |
| 120 | VDD | — | +5 V power supply. |
| 121, 122 | GND | — | GND. |
| 123 | DO | O | Video data output bus. |
| 124 | BCK | O | Video data output clock. |
| 125 | LRCK | O | L/R channel identification signal. |
| 126 | MCLK | O | Audio master clock. |
| 127 | NC | — | N. C. |
| 128 | AUCLK | I | Internal audio decoder system clock. |
| 129 | VDD | — | +5 V power supply. |
| 130~132 | NC | — | N. C. |
| 133 | VDD | — | +5 V power supply. |
| 134 | $\overline{\text{RESET}}$ | I | Reset signal. |
| 135 | CLK | I | System clock (27 MHz) |
| 136 | GND | — | GND. |
| 137 | $\overline{\text{DS}}$ | I | Data strobe signal. |
| 138 | R/$\overline{\text{W}}$ | I | Read/write select. |
| 139 | $\overline{\text{CS}}$ | I | Chip select. |
| 140~145 | HADR0~5 | I | Host address bus. |
| 146, 147 | GND | — | GND. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 148 | INT | O | Interrupt signal. |
| 149 | $\overline{\text{HDAK}}$ | O | Bus cycle response signal. |
| 150 | VDD | — | +5 V power supply. |
| 151 | GND | — | GND. |
| 152~157 | HD15~10 | I/O | Host data bus. |
| 158 | VDD | — | +5 V power supply. |
| 159, 160 | GND | — | GND. |

## IC, µPD63210GT

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | TSEL | I | Test selection input. |
| 2 | RST | I | Reset input. |
| 3 | XTO | O | External crystal oscillator is connected to this pin. |
| 4 | XTI | I | External crystal oscillator is connected to this pin. |
| 5 | MCKO | O | Master clock output. |
| 6 | CKSEL | I | Clock selection input. |
| 7 | CLK | I | Bit clock input. |
| 8 | SI | I | Data input. |
| 9 | LRCK | I | LR clock input. |
| 10 | DEFS1 | I | Deemphasis selection input 1. |
| 11 | DEFS2 | I | Deemphasis selection input 2. |
| 12 | DSEL | I | Double speed playback selection input.. |
| 13 | SMUTE | I | Soft mute selection input. |
| 14 | BSEL | I | Data bit length selection input. |
| 15 | DGND | — | Digital GND. |
| 16 | AGND | — | Analog GND. |
| 17 | RO | O | D/A converter output (R channel). |
| 18 | AOR | O | Filter amplifier output (R channel). |
| 19 | ANIR | I | Filter amplifier (-) input (R channel). |
| 20 | APIR | I | Filter amplifier (+) input (R channel). |
| 21 | RREF | — | Reference (R channel). |
| 22 | LREF | — | Reference (L channel). |
| 23 | APIL | I | Filter amplifier (+) input (L channel). |
| 24 | ANIL | I | Filter amplifier (-) input (L channel). |
| 25 | AOL | O | Filter amplifier output (L channel). |
| 26 | LO | O | D/A converter output (L channel). |
| 27 | AVDD | — | Analog power supply. |
| 28 | DVDD | — | Digital power supply. |

## IC, TC170C100AF

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1~5 | YIN4~0 | I | Y signal from MPEG chip. |
| 6 | GND | — | GND. |
| 7~14 | UIN7~0 | I | U signal from MPEG chip. |
| 15 | GND | — | GND. |
| 16, 17 | VIN7, 6 | I | V signal from MPEG chip. |
| 18 | VCC | — | Power supply terminal. |
| 19~24 | VIN5~0 | I | V signal from MPEG chip. |
| 25 | GND | — | GND. |
| 26 | FLDO | O | Odd/even signal output of a field. |
| 27 | $\overline{\mathrm{HDO}}$ | O | $\overline{\mathrm{HSYNC}}$ signal to MPEG chip. |
| 28 | $\overline{\mathrm{VDO}}$ | O | $\overline{\mathrm{VSYNC}}$ signal to MPEG chip. |
| 29 | PCP | O | Clamp signal output. |
| 30 | CBLK | O | Blanking signal output (used depending upon type of DAC). |
| 31 | GND | — | GND. |
| 32 | FSC | O | Sub carrier output (Divided-by-four of NTSC: 14.31818 MHz. PAL: 17.734475 MHz). |
| 33 | CDG/$\overline{\mathrm{MPEG}}$ | O | CD-G or MPEG play selector signal to external RGB video selector. |
| 34 | TEST0 | I | Operation mode setting terminal. |
| 35 | GND | — | GND. |
| 36 | 13.5M | O | 13.5 MHz output. |
| 37 | GND | — | GND. |
| 38~43 | R OUT7~2 | O | Y/R signal output (Output format can be selectable in Y/R). |
| 44 | GND | — | GND. |
| 45, 46 | R OUT1, 0 | O | Y/R signal output (Output format can be selectable in Y/R). |
| 47~54 | G OUT7~0 | O | U/G signal output (Output format can be selectable in U/G). |
| 55 | VCC | — | Power supply terminal. |
| 56~63 | B OUT7~0 | O | V/B signal output (Output format can be selectable in V/B). |
| 64 | GND | — | GND. |
| 65 | 27M | I | 27 MHz input. |
| 66 | TEST1 | I | Operation mode setting terminal. |
| 67 | SHSYNC | O | Comparison clock for PLL synchronizing CLK. |
| 68 | MHSYNC | O | Reference clock for PLL synchronizing CLK. |
| 69 | VCC | — | Power supply terminal. |
| 70 | OSC1 | I | 14.31818 MHz input port (crystal oscillation) when supporting NTSC. |
| 71 | OSC2 | O | NTSC: 14.31818 MHz crystal oscillation output terminal. |
| 72, 73 | GND | — | GND. |
| 74 | OSC3 | I | 17.734475 MHz input port (crystal oscillation) when supporting PAL. |
| 75 | OSC4 | O | 17.734475 MHz crystal oscillation output terminal. |
| 76 | VCC | — | Power supply terminal. |
| 77, 78 | TEST2, 3 | I | Operation mode setting terminal. |
| 79 | FMOD | I | FLD0 output HL inversion selection signal. |
| 80 | PMOD | I | PCP output HL inversion selection signal. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 81 | GND | — | GND. |
| 82~85 | T15~T12 | I | RAM data input terminals 15 - 12 during RAM check. |
| 86 | T11OP3 | I/O | OUT port terminals 3 - 0 (address 4). RAM data input terminals 11 - 8 during RAM check. |
| 87 | T10OP2 | I/O | OUT port terminals 3 - 0 (address 4). RAM data input terminals 11 - 8 during RAM check. |
| 88 | T9OP1 | I/O | OUT port terminals 3 - 0 (address 4). RAM data input terminals 11 - 8 during RAM check. |
| 89 | T8OP0 | I/O | OUT port terminals 3 - 0 (address 4). RAM data input terminals 11 - 8 during RAM check. |
| 90 | VCC | — | Power supply terminal. |
| 91 | $\overline{\text{GHSYNC}}$ | I | $\overline{\text{HSYNC}}$ signal from CD-G decoder. |
| 92 | $\overline{\text{GVSYNC}}$ | I | $\overline{\text{VSYNC}}$ signal from CD-G decoder. |
| 93 | $\overline{\text{GCSYNC}}$ | I | $\overline{\text{CSYNC}}$ signal from CD-G decoder. |
| 94 | GND | — | GND. |
| 95~98 | T7~4 | I | RAM data input terminals 7 - 4 during RAM check. |
| 99 | T3IP3 | I | IN port terminals 3 - 0 (address 5). RAM data input terminals 3 - 0 during RAM check. |
| 100 | T2IP2 | I | IN port terminals 3 - 0 (address 5). RAM data input terminals 3 - 0 during RAM check. |
| 101 | T1IP1 | I | IN port terminals 3 - 0 (address 5). RAM data input terminals 3 - 0 during RAM check. |
| 102 | T0IP0 | I | IN port terminals 3 - 0 (address 5). RAM data input terminals 3 - 0 during RAM check. |
| 103 | GND | — | GND. |
| 104 | 4FSC | O | 104 NTSC: 14.31818 MHz. PAL: 17.734475 MHz buffer output. |
| 105 | GND | — | GND. |
| 106 | RAMCE | I | Chip enable signal for checking internal RAM and ROM check. (Fixed to low normally). |
| 107 | RAMW | I | Read/write signal for checking internal RAM and ROM check. (Fixed to low normally). |
| 108 | XT2C | I | XT2C input (used for HYNC DL delay). |
| 109 | GND | — | GND. |
| 110 | $\overline{\text{RST}}$ | I | Input port of the reset signal. |
| 111 | GND | — | GND. |
| 112 | PAL/$\overline{\text{NTSC}}$ | I | PAL/NTSC selector port. |
| 113 | HSYNCIN | O | Inverted output of $\overline{\text{HYNSC}}$ IN. |
| 114 | $\overline{\text{HSYNCIN}}$ | I | $\overline{\text{SYNC}}$ signal from VST (only when supporting FMV engine). |
| 115 | $\overline{\text{VSYNCIN}}$ | I | $\overline{\text{VSYNC}}$ from VSC. (only when supporting FMV engine). |
| 116 | GND | — | GND. |
| 117~124 | D7~0 | I/O | CPU data bus signal. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 125 | VCC | — | Power supply terminal. |
| 126 | CMOD | I | CLBK output HL inversion selection signal. |
| 127 | $\overline{\text{VOD}}$ | I | Video output disable. |
| 128 | VCD/$\overline{\text{FMV}}$ | I | VIDEO CD/DMV engine selection port. |
| 129 | $\overline{\text{CS}}$ | I | Chip select signal. |
| 130 | $\overline{\text{RD/LDS}}$ | I | READ signal from CPU $\overline{\text{RD}}$ (when supporting H8). $\overline{\text{LD}}$ (when supporting 680009). |
| 131 | $\overline{\text{WR}}$/R/$\overline{\text{W}}$ | I | $\overline{\text{WRITE}}$ signal from CPU $\overline{\text{WR}}$ (when supporting H8). R/W (when supporting 680009). |
| 132~134 | A2~0 | I | Address signal from CPU. |
| 135 | H8/$\overline{\text{68}}$ | I | CPU H8-325/68000 selection port. |
| 136 | GND | — | GND. |
| 137 | $\overline{\text{HSYNCO}}$ | O | Horizontal sync output. |
| 138 | $\overline{\text{VSYNCO}}$ | O | Vertical sync output. |
| 139 | $\overline{\text{CSYNCO}}$ | O | Composite sync output. $\overline{\text{CSYNC}}$ signal from video encoder. |
| 140 | SMOD | I | 13.5 MHz ↑ ↓ selection of SYNC signal output. Selection is possible at the final stage of $\overline{\text{HDO}}$, $\overline{\text{VDO}}$, $\overline{\text{HSYNCO}}$, $\overline{\text{VSYNCO}}$, $\overline{\text{CSYNCO}}$, SHYNC, PCP, CBLK, FLDO. (However, $\overline{\text{HSYNCO}}$, $\overline{\text{VSYNCO}}$, $\overline{\text{CSYNCO}}$ are supported during SYNC output of the CD-G decoder.) |
| 141 | VCC | — | Power supply terminal. |
| 142~144 | YIN7~5 | I | Y signal from MPEG chip. |

## IC, HD6433042F06F

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | VCC | I | Power supply. |
| 2 | CDG DIN | O | CD-G decoder serial data signal. |
| 3 | CDG XLT | O | CD-G decoder latch signal. |
| 4 | CDG CLK | O | CD-G decoder clock signal. |
| 5~7 | GADSP0~2 | O | Gate array DSP format 0~2. |
| 8 | $\overline{\text{DRQ CDDEC}}$ | I | CD-ROM decoder data request signal. |
| 9 | $\overline{\text{DRQ MPEG}}$ | I | MPEG decoder data request signal. |
| 10 | $\overline{\text{RESO}}$ | O | External reset output. |
| 11 | GND | I | GND. |
| 12 | TXD0 | O | Serial interface (RXD). |
| 13 | TXD1 | O | CXD for test. |
| 14 | RXD0 | I | Serial interface (RXD). |
| 15 | RXD1 | I | RXD for test. |
| 16 | SCK0 | I/O | Serial interface (SCK). |
| 17 | $\overline{\text{MPRST}}$ | O | Peripheral reset. L: RESET ON. |
| 18~21 | D0~D3 | I/O | Data bus 0~3. |
| 22 | GND | I | GND. |
| 23~34 | D4~D15 | I/O | Data bus 4~15. |
| 35 | VCC | I | Power supply. |
| 36~43 | A0~A7 | O | Address bus 0~7. |
| 44 | GND | I | GND. |
| 45~56 | A8~A19 | O | Address bus 8~19. |
| 57 | GND | I | GND. |
| 58 | $\overline{\text{WAIT}}$ | I | External wait signal. |
| 59 | GLUE ON | O | DMA glue circuit enable 0: OFF. 1: ON. |
| 60 | M EMPH | O | MPEG AUDIO emphasis 0: OFF. 1: ON. |
| 61 | FAI | O | System clock output. |
| 62 | $\overline{\text{STBY}}$ | I | Standby. (Hardware standby mode at low level). |
| 63 | $\overline{\text{RES}}$ | I | Reset input. (Reset at low). |
| 64 | NMI | I | Non-maskable interrupt. (Non-maskable interrupt is requested). |
| 65 | GND | I | GND. |
| 66 | EXTAL | I | External crystal is connected to this pin. |
| 67 | XTAL | I | External crystal is connected to this pin. |
| 68 | VCC | I | Power supply. |
| 69 | $\overline{\text{AS}}$ | O | Address strobe signal. |
| 70 | $\overline{\text{RD}}$ | O | External address read enable signal. |
| 71 | $\overline{\text{HWR}}$ | O | External address high write enable signal. |
| 72 | $\overline{\text{LWR}}$ | O | External address low write enable signal. |
| 73~75 | MOD0~MOD2 | I | Mode terminal. Operating mode is set using this terminal. |
| 76 | AVCC | I | Power supply terminal of A/D converter and D/A converter. |
| 77 | VREF | I | Reference voltage input to A/D converter and D/A converter. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 78, 79 | P70, P71 | I | IN port 0, 1 for test. |
| 80 | PAL/NTSC | I | PAL/NTSC status 0: NTSC. 1: PAL. |
| 81 | REQ CD | I | Serial interface (REQ_CD). |
| 82~85 | P74~P77 | I | Reserve. |
| 86 | AGND | I | GND terminal of A/D converter and D/A converter. |
| 87 | INT CDDRV | I | Serial interface interrupt. |
| 88 | INT CDDEC | I | CD-ROM decoder interrupt. |
| 89 | INT MPEG | I | MPEG decoder interrupt. |
| 90 | IRQ3 | I | Reserve. |
| 91 | P84 | I | Reserve. |
| 92 | GND | I | GND. |
| 93 | DONE CDDEC | O | CD-ROM decoder DONE signal. |
| 94 | DONE MPEG | O | MPEG decoder DONE signal. |
| 95 | CDG VOFF | O | CD-G decoder video OFF signal. 1: VOFF. |
| 96 | SYS MUTE1 | O | Audio mute 1 signal. 1: mute ON. |
| 97 | INTFLDO | I | EVEN/OFF input signal. 0: EVEN. 1: 0DD. |
| 98 | SW AUDIO | O | Audio select signal. 0: CD-G/DA. 1: MPEG. |
| 99 | SYS MUTE0 | O | Audio mute 0 signal. 0: mute on. |
| 100 | REQ MPEG | O | Serial interface (REQ MPEG) |

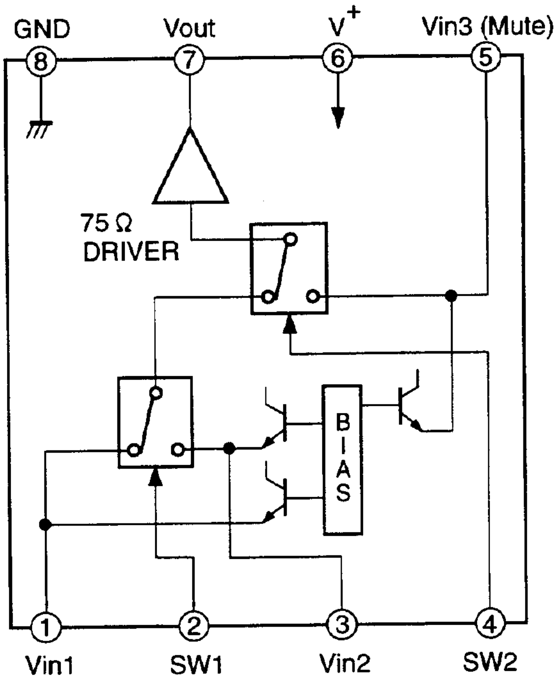
## IC, µPD65622GF-239-3B9

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | LRCKCD | O | Main data signal to CXD1186. |
| 2 | SDATACD | O | |
| 3 | BCKCD | O | |
| 4 | C2POCD | O | |
| 5 | $\overline{\text{CSROMH}}$ | O | Chip select signal to CXD1186 (host side). |
| 6 | $\overline{\text{CSROMC}}$ | O | Chip select signal to CXD1186 (CPU side). |
| 7 | $\overline{\text{DACKROM}}$ | O | DMA acknowledge signal to CXD1186. |
| 8 | HDRQ | I | Data transfer request signal from CXD1186. This signal is active high. |
| 9 | $\overline{\text{ROMRD}}$ | O | Read/write signal to CXD1186. |
| 10 | $\overline{\text{ROMWR}}$ | O | Read/write signal to CXD1186. |
| 11 | EMPHI | I | This signal allows inputting the main data from the CD drive. |
| 12 | GND | — | GND. |
| 13 | SDATAI | I | This signal allows inputting the main data from the CD drive. |
| 14 | BCKI | I | |
| 15 | LRCKI | I | |
| 16 | C2POI | I | |
| 17 | GND | — | GND. |
| 18 | 16.9M | I | 16.9344 MHz oscillator circuit input signal. |
| 19 | 16.9F | O | 16.9344 MHz oscillator circuit output signal. |
| 20 | GND | — | GND. |
| 21 | GSFSY | I | Write frame clock signal used to input the sub data from CD drive. |
| 22 | EMPO | O | Main data signal to CXD1186. |
| 23 | LRCKO | O | Audio data signal to audio DAC. |
| 24 | SDATAO | O | Audio data signal to audio DAC. |
| 25 | RESET | O | Active high reset signal. |
| 26 | GND | — | GND. |
| 27 | BCKCO | O | Audio data signal to audio DAC. |
| 28 | $\overline{\text{GGLUE}}$ | I | The input signal which makes the glue circuit valid from GSFSY input. |
| 29 | $\overline{\text{GGSFSY}}$ | O | Not used. |
| 30 | SDATAMA | I | Audio data signal from µPD61010. |
| 31 | BCKMA | I | |
| 32 | LRCKMA | I | |
| 33 | GND | — | GND. |
| 34 | VCC | — | Vcc. |
| 35 | $\overline{\text{16.9M}}$ | O | 16.9344 MHz output signal. |
| 36 | GND | — | GND. |
| 37 | $\overline{\text{DS}}$ | O | Control signal to µPD61010. |
| 38 | $\overline{\text{CSMPEG}}$ | O | Chip select signal to CXD1186. |
| 39 | $\overline{\text{R/W}}$ | O | Control signal to µPD61010. |
| 40 | INT | I | Interrupt request signal from µPD61010. This signal is active high. |
| 41 | $\overline{\text{HDAK}}$ | I | Data acknowledge signal from µPD61010. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 42 | $\overline{\text{DREQ}}$ | I | DRAM data transfer request signal from μPD61010. |
| 43 | $\overline{\text{DACKMP}}$ | O | DMA acknowledge signal to μPD61010. |
| 44 | $\overline{\text{DAK}}$ | I | Bit stream data transfer request signal from μPD61010. |
| 45 | $\overline{\text{CSCELL}}$ | O | Chip select signal to standard cell. |
| 46 | GND | — | GND. |
| 47 | $\overline{\text{RESET}}$ | I | System reset signal. |
| 48 | GND | — | GND. |
| 49 | $\overline{\text{CSRAM}}$ | O | Chip select signal to the system RAM. |
| 50 | $\overline{\text{LWR}}$ | I | Lower data write signal from CPU. |
| 51 | $\overline{\text{HWR}}$ | I | Upper data write signal from CPU. |
| 52 | $\overline{\text{RD}}$ | I | Data read signal from CPU. |
| 53 | GND | — | GND. |
| 54 | $\overline{\text{AS}}$ | I | Address strobe signal from CPU. |
| 55 | $\overline{\text{CSIO}}$ | O | Optional chip select signal. |
| 56~63 | A19~A12 | I | Address signal from CPU. |
| 64 | GND | — | GND. |
| 65 | $\overline{\text{WAIT}}$ | O | Wait signal to CPU. |
| 66 | GLUEON | I | This signal makes the glue logic valid in order to prevent CPU DMAC from trouble.<br>This circuit is made valid at high. |
| 67 | $\overline{\text{SEL12}}$ | I | Input signal to select 12 MHz or 16 MHz CPU clock. |
| 68 | EMPMA | I | Audio data signal from μPD61010. |
| 69 | GND | — | GND. |
| 70 | FAI | I | Basic clock signal (12 MHz) from CPU. |
| 71 | GND | — | GND. |
| 72 | VCC | — | Vcc. |
| 73 | GND | — | GND. |
| 74 | $\overline{\text{INTMPEG}}$ | O | Interrupt request signal to CXD1186. |
| 75 | SWAUDIO | I | Selection signal between MPEG audio and CD-DA audio signals. |
| 76 | $\overline{\text{DRQ1}}$ | O | DMA transfer request signal to μPD61010. |
| 77 | $\overline{\text{DRQ0}}$ | O | DMA transfer request signal to CXD1186. |
| 78~80 | GADSP2~0 | I | Format select signal to convert format of the main data from CD drive. |

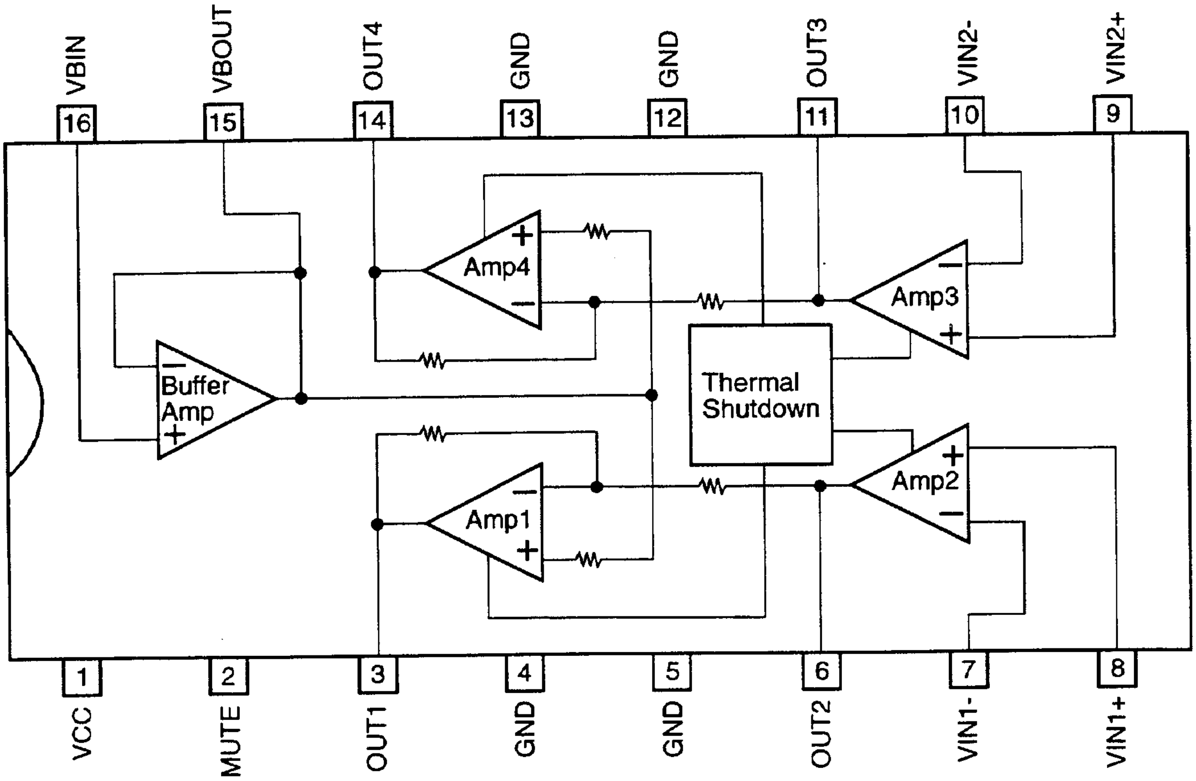
## IC BLOCK DIAGRAM

### IC, NJM2244L

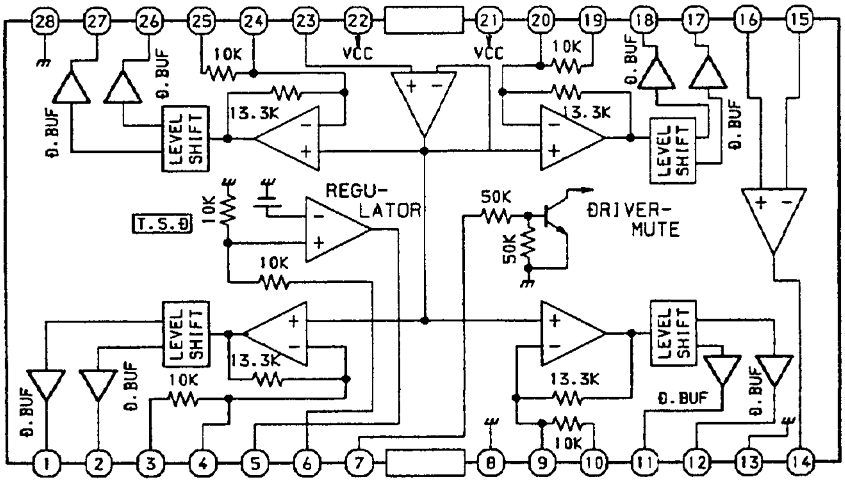

GND
Vout
V+
Vin3 (Mute)
8
7
6
5
75 Ω
DRIVER
B
I
A
S
1
2
3
4
Vin1
SW1
Vin2
SW2

| SW1 | SW2 | OUTPUT SIGNAL |
|---|---|---|
| L | L | Vin1 |
| H | L | Vin2 |
| L/H | H | Vin3 |

### IC, LA6530


VBIN
VBOUT
OUT4
GND
GND
OUT3
VIN2-
VIN2+
16
15
14
13
12
11
10
9
Buffer Amp
Amp4
Amp3
Thermal Shutdown
Amp1
Amp2
1
2
3
4
5
6
7
8
VCC
MUTE
OUT1
GND
GND
OUT2
VIN1-
VIN1+

IC, BA6397


28
27
26
25
24
23
22
21
20
19
18
17
16
15
10K
VCC
VCC
10K
D.BUF
D.BUF
D.BUF
D.BUF
13.3K
13.3K
LEVEL SHIFT
LEVEL SHIFT
REGU-
LATOR
T.S.D
10K
10K
50K
50K
DRIVER-
MUTE
LEVEL SHIFT
LEVEL SHIFT
13.3K
13.3K
D.BUF
D.BUF
D.BUF
D.BUF
10K
10K
1
2
3
4
5
6
7
8
9
10
11
12
13
14

## TEST MODE

1. CDテストモードの起動方法

ファンクションCDの釦を押しながら、ACプラグを挿入する。
上記によりFL表示管が全て点灯し、テストモードが起動します。

2. CDテストモードの解除方法

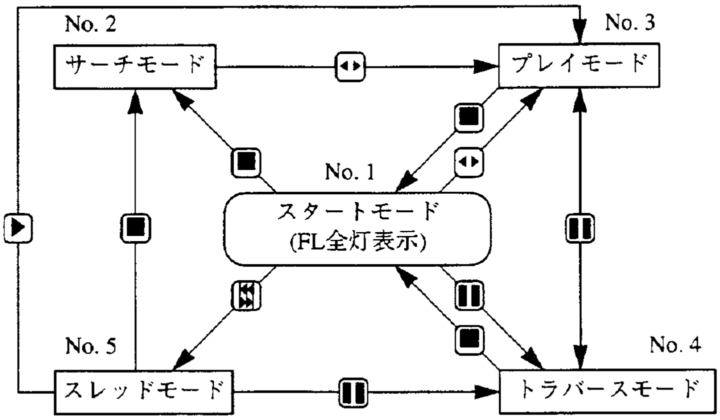
下記のいずれか1つの操作で解除します。
ファンクション釦を押す　·パワーSW釦を押す。
(CDファンクション釦以外)　·ACプラグを抜く。

3. CDテストモードの機能説明
テストモード起動後、各操作釦を押す事により次のNo1～No5の各モード機能が使用できます。

| Mode/No. | 操作 | FL表示 | 動作 | 内容 |
|---|---|---|---|---|
| スタートモード<br>No.1 | 起動 | 全灯表示 | ● TEST MODE起動<br>● LASER DIODE常時発光<br>(CDブロック電源ON) | ● FL表示確認 (全灯)<br>● APC回路確認<br>● レーザー電流測定<br>(レーザー電流コントロール、トランジスタのエミッターGND間の抵抗の両端。) |
| サーチモード<br>No.2 | ■ 釦 | C0-- | ● 連続フォーカスサーチ<br>(PUレンズがフルスイングを繰り返す)<br>* 10分以上の連続フォーカスは避けて下さい。 *注1 | FOCUS SERVO<br>● フォーカスラッチ波形確認<br>● フォーカスエラー波形確認<br>(サーチモードではFOK/FZCは監視せず。) |
| プレイモード<br>No.3 | ◀▶ 釦 | C0 1 | ● 通常再生<br>● TOC READ出来ない場合<br>フォーカスサーチを続行 *注1 | FOCUS SERVO/TRACKING SERVO<br>CLV SERVO/SLED SERVO<br>FOK/FZC確認 |
| トラバースモード<br>No.4 | ❚❚ 釦 | C0 1 | ● DISC通常再生中<br>1回押す トラッキングサーボ OFF<br>2回押す トラッキングサーボ ON<br>*注2 | TRACKING SERVO ON/OFF<br>トラッキングバランス (トラバース) 調整 |
| スレッドモード<br>No.5 | ⏮ 釦<br>⏭ | 全灯表示 | ● ピックアップ外周へ移動<br>● ピックアップ内周へ移動<br>*注3<br>(再生中は通常動作致します) | SLED SERVO<br>SLED メカ動作確認 |

*注1 フォーカスサーチを連続して10分以上動作し続けるとドライバーICが発熱し保護回路が働く為、トラッキングサーボがかからない状態となる場合が有ります。この様な場合には、電源を切り約10分間放熱後、再スタートして下さい。
*注2 『❚❚』状態で、『⏮』または『⏭』釦を押さない事。『❚❚』状態解除後、再生出来なくなります。『❚❚』状態で、『⏮』または『⏭』釦を押した場合には『■』釦を押しスタートモード (No.1) に戻して下さい。
*注3 ピックアップが最内周、最外周の位置でも『⏮』または『⏭』釦を押している間はスレッドモータが回転する為、ギヤ破損に注意して下さい。

4. 操作概要
下図の様にスタートモードから、矢印方向の流れで各モードの操作が行えます。モード変更は、下図の流れに従い行って下さい。



尚、DISC DIRECT PLAY釦を押した場合には、上図のPLAY釦を押した時と同様の動作となります。またプレイモード／トラバースモード時にopen/close釦により、トレイをopenさせた場合には、スタートモードに戻ります。

1. How to Activate CD Test Mode
   Insert the AC plug while pressing the function CD button.
   All FL display tubes will light up, and the test mode will be activated.

2. How to Cancel CD Test Mode
   Either one of the following operations will cancel the CD test mode.
   - Press the function button. (except CD function button)
   - Press the power switch button.
   - Disconnect the AC plug

3. CD Test Mode Functions
   When test mode is activated, the following mode functions from No.1 to No.5 can be used by pressing the operation keys.

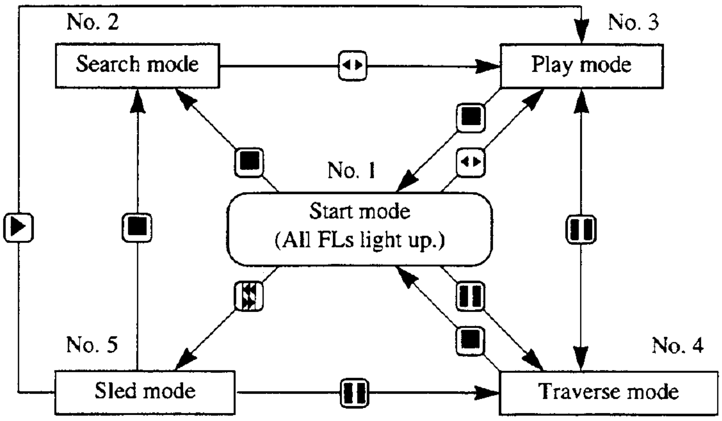
| Mode/No. | Operation | FL display | Operation | Contents |
|---|---|---|---|---|
| Start mode<br>No.1 | Activation | All lamps light | • Test mode is activated.<br>• Laser diode turns always ON. (CD block power is ON.) | • FL display check (All displays light.)<br>• APC circuit check<br>• Laser current measurement (Laser current control. Across a resistor connected between emitter and GND.) |
| Search mode<br>No.2 | ■ key | CD-- | • Continual focus search (The pickup lens repeats the full-swing up-down motion.)<br>* Avoid continual searches that last for more than 10 minutes. * NOTE 1 | FOCUS SERVO<br>• Check focus search waveform<br>• Check focus error waveform (FOK/FZC are not monitored in the search mode) |
| Play mode<br>No.3 | ◀▶ key | CD 1 | • Normal playback<br>• Focus search is continued if TOC cannot be read. * NOTE 1 | FOCUS SERVO/TRACKING SERVO<br>CLV SERVO/SLED SERVO<br>Check FOK/FZC |
| Traverse mode<br>No.4 | ❚❚ key | CD 1 | • During normal disc playback<br>Press once; tracking servo OFF<br>Press twice; tracking servo ON<br>* NOTE 2 | TRACKING SERVO ON/OFF<br>Tracking balance (traverse) adjustment |
| Sled mode<br>No.5 | ⏮ key<br>⏭ | All lamps light | • Pickup moves to the outermost track<br>• Pickup moves to the innermost track<br>* NOTE 3<br>(During playback, machine operates normally.) | SLED SERVO<br>Check SLED mechanism operation |

* NOTE 1: There are cases when the tracking servo cannot be locked owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.

* NOTE 2: Do not press the ⏮ or ⏭ keys when the machine is in the ❚❚ status is active. If they are pressed, playback will not be possible after the ❚❚ status has been canceled. If the ⏮ or ⏭ keys are pressed in the ❚❚ status, press the ■ key and return to the start mode (No.1).

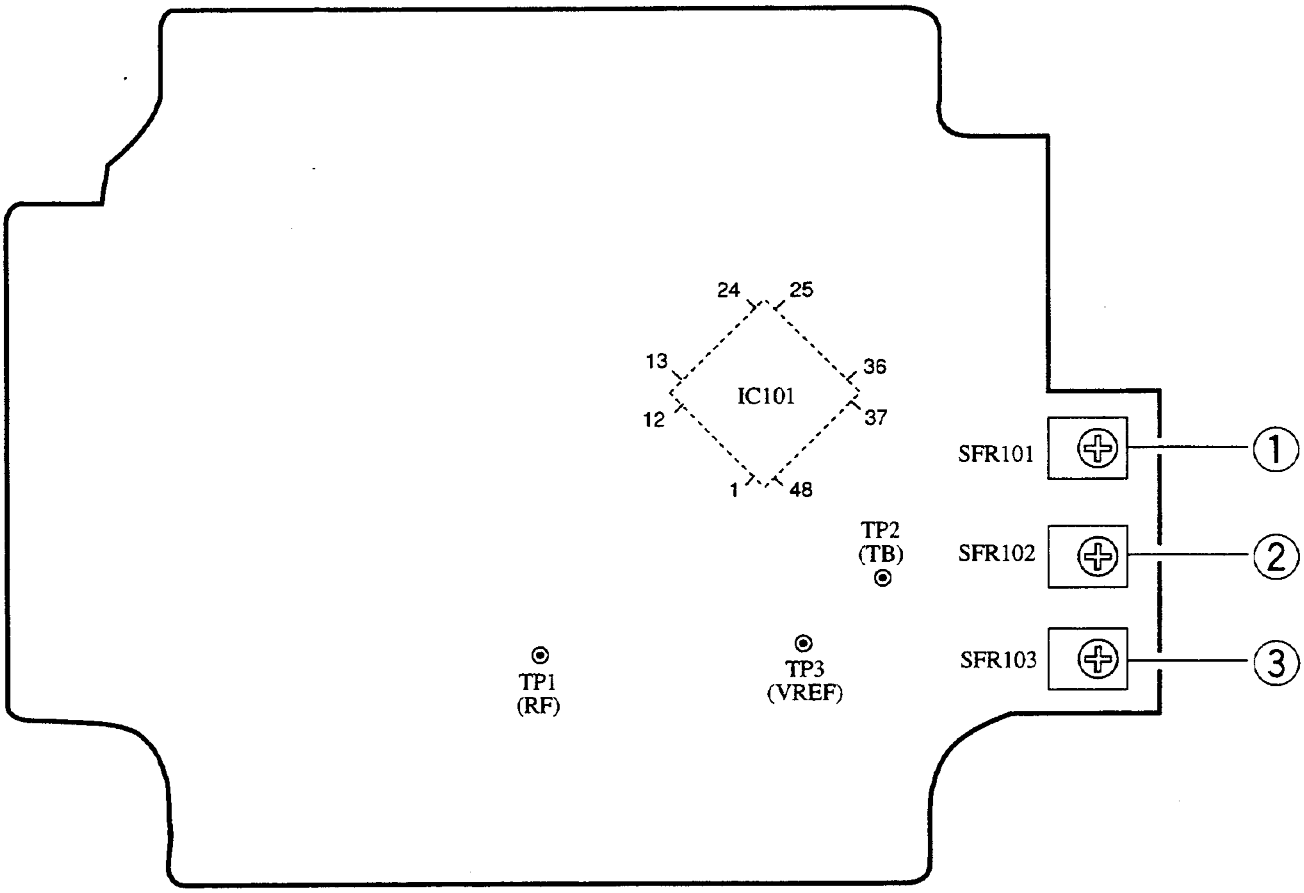
* NOTE 3: When pressing the ⏮ or ⏭ keys, take care to avoid damage to the gears. Because the sled motor is activated when the ⏮ or ⏭ keys are pressed, even when the pick-up is at the outermost or innermost track.

4. Operation Outline
   The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.



If the DISC DIRECT PLAY button is pressed, the machine performs the same operation as the PLAY button is pressed as shown. If the tray is opened by pressing OPEN/CLOSE button during Play mode or Traverse mode, the machine returns to the Start mode.

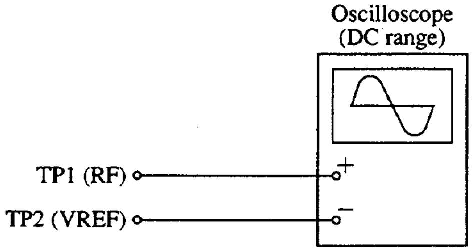
## B CD MECHA C.B


24
25
13
36
IC101
12
37
1
48
SFR101
SFR102
SFR103
①
②
③
TP2
(TB)
TP1
(RF)
TP3
(VREF)

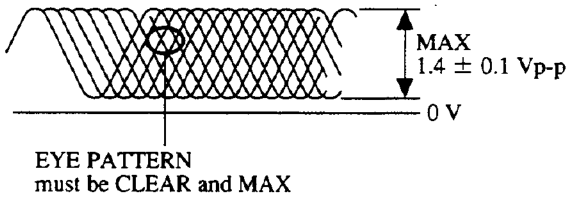
注意: ・(10: 1) のプローブを接続して、調整して下さい。
・各調整には、オシロスコープの⊖側をTP2 (VREF) に接続して下さい。

### 1. フォーカスバイアス調整

この調整は、光学系ブロックを交換修理した場合に調整すること。

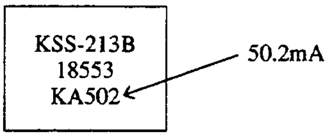

Oscilloscope
(DC range)
TP1 (RF)
TP2 (VREF)
+
−

1) テストポイントTP1 (RF)、TP2 (VREF) にオシロスコープを接続する。
2) POWERスイッチをONにする。
3) テストディスクTCD-782 (YEDS-18) を入れて2曲目をPLAYさせる。
4) オシロスコープの波形の振幅が最大となり、かつ中央のひし形が、鮮明になるようにSFR101を調整する。


MAX
1.4 ± 0.1 Vp-p
0 V
EYE PATTERN
must be CLEAR and MAX

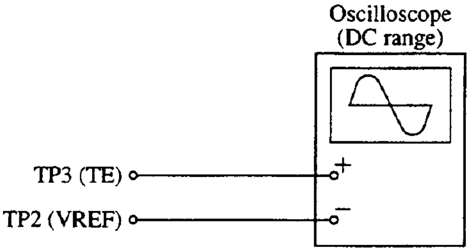
VOLT/DIV : 50mV
TIME/DIV : 0.5 μS

(注) レーザー電流の確認はR127 (10Ωの両端電圧) で行えます。レーザーピックアップの裏側のラベルの電流値に対して±6.0mAに入っていること。

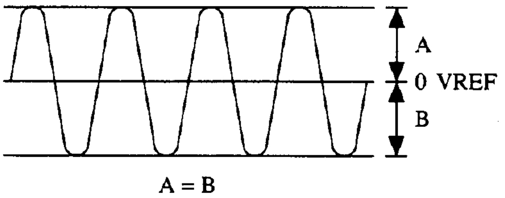

KSS-213B
18553
KA502
50.2mA

$$\text{レーザー電流Iop} = \frac{\text{R127の両端電圧}}{10\Omega}$$

### 2. トラッキング・バランス調整


Oscilloscope
(DC range)
TP3 (TE)
TP2 (VREF)
+
−

1) テストポイントTP3 (TE)、TP2 (VREF) にオシロスコープを接続する。
2) POWERスイッチをONにする。
3) テストディスクTCD-782 (YEDS-18) を入れて、▶PLAY状態にする。
4) SFR103を回しトラッキングゲインを絞る。
5) オシロスコープのトラバース波形が、下図のように上下対称になるようにSFR102を調整する。
6) 調整後、各端子のアースリード線をはずす。



VOLT/DIV : 20mV
TIME/DIV : 1mS

### 3. トラッキングゲイン調整

この調整を正確に行うためには、サーボアナライザーが必要です。しかし、このゲインはマージンを持っているため、通常では少し位ずれていてもほとんど問題はありません。したがってこの調整は行わないで下さい。フォーカス/トラッキングゲインは2軸デバイス動作時の機械的雑音と機械的ショックに対するピックアップの追従性を決めています。しかし、これは互いに相反するため、両方を満足する点に調整してあります。

- ● ゲインを上げると2軸デバイス動作時の雑音が増加する。
- ● ゲインを下げると機械的ショックに弱くなり音飛びを起こしやすくなる。

そしてゲインの調整がずれていると次頁の様な症状が出ます。

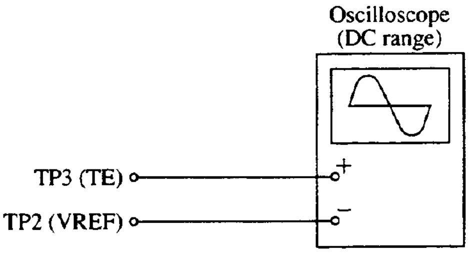
| ゲイン<br>症状 | (フォーカス) | トラッキング |
|---|---|---|
| ● STOP→▶PLAY時, 又は自動選曲時 (\|◀◀, ▶▶\|ボタンを押したとき) に演奏が始まるまでの時間が長くなる。<br>(通常は2秒位です。) | 低い | 低い<br>又は<br>高い |
| ● STOP→▶PLAY時, 又は自動選曲時 (\|◀◀, ▶▶\|ボタンを押したとき) に演奏が始まらないでディスクが回転を続ける。 | —— | 低い |
| ● STOP→▶PLAY時, しばらくすると回転が止まる。 | 低い又は高い | —— |
| ● 演奏中に音がとぎれる。又, タイムカウンターの表示が進まなくなる。 | —— | 低い |
| ● 2軸ディバイス動作時のノイズが多くなる。 | 高い | 高い |

なお、簡易調整として下記の方法があります。

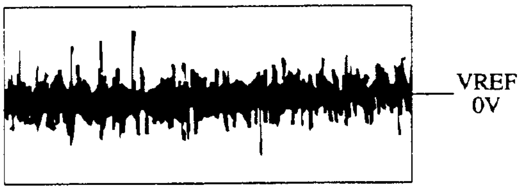
—— 簡易調整 ——

注意: 正確には調整できないため、調整を行う前にボリュームの位置を憶えておいて、簡易調整を行った後のボリュームの位置と比較して、そのずれが少ないときは元のボリュームの位置に戻しておいて下さい。

調整方法:



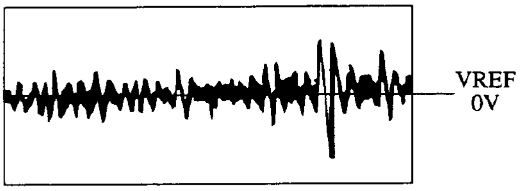
1. セットを水平に置く。
(セットを水平に置かないと2軸デバイスが重力の影響を受け、調整出来ません。)
2. テストディスクTCD-782 (YEDS-18) を入れて2曲目を再生する。
3. オシロスコープをCD MECHA基板のTP3 (TE)、TP2 (VREF) に接続する。
4. オシロスコープの波形が下図の波形になるようにSFR103を調整する。(トラッキングゲイン調整)



VOLT/DIV : 50mV
TIME/DIV : 1mS

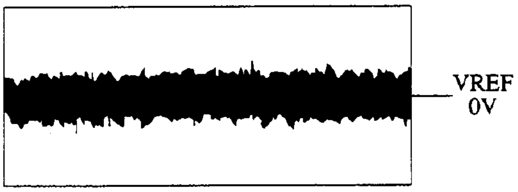
● 悪い例

トラッキングゲインが低い時
(調整されている波形と比べて基本波が表れるようになる。)



VOLT/DIV : 50mV
TIME/DIV : 1mS

トラッキングゲインが高い時
(ゲインが低い時と比べて基本波が高い)

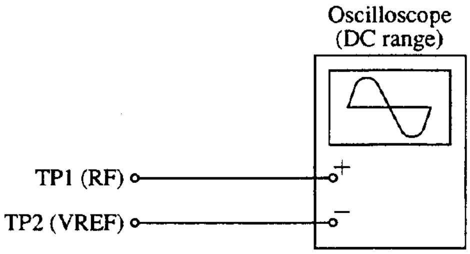


VOLT/DIV : 50mV
TIME/DIV : 1mS

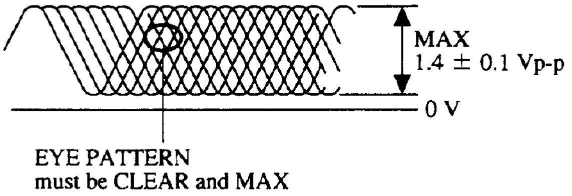
Note: Connect a probe (10: 1) of the oscilloscope or the frequency counter to a test point.

1. Focus Bias Adjustment

Make the focus bias adjustment when replacing and repairing the optical block.

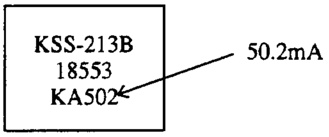


1) Connect an oscilloscope to test points TP1 (RF) and TP2 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
4) Adjust SFR101 so that RF signal of test point TP1 (RF) is MAX and CLEARREST.



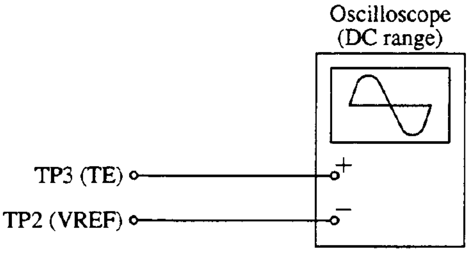
VOLT/DIV : 50mV
TIME/DIV : 0.5μS

Note: The current of the laser signal can be checked with the voltages on both sides of R127 (10Ω). The difference for the specified value shown on the lavel must be within ± 6.0mA.

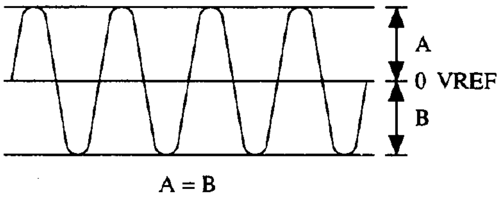


$$\text{Laser current Iop} = \frac{\text{Voltage across R127}}{10\Omega}$$

2. Tracking Balance Adjustment



1) Connect an oscilloscope to test points TP3 (TE) and TP2 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and press the PLAY button.
4) Adjust SFR103 to decrease the tracking gain.
5) Adjust SFR102 so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.
6) After the adjustment is completed, remove the connected lead wires from the terminals.



VOLT/DIV : 20mV
TIME/DIV : 1mS

3. Tracking Gain Adjustment

A servo analyzer is necessary in order to perform this adjustment exactly. However, this gain has a margin, so even if it is slightly off, there is no problem. Therfore, do not perform this adjustment.
Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when 2-axis device operates. However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise increases when the 2-axis device operates.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.

When the gain adjustment is off, the symptoms below appear.

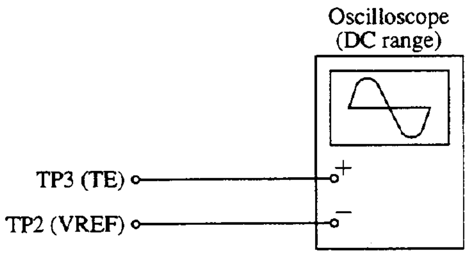
| Gain / Symptoms | (Focus) | Tracking |
|---|---|---|
| ● The time until music starts becomes longer for STOP→ ▶PLAY or automatic selection (⏮, ⏭ buttons pressed.) (Normally takes about 2 seconds.) | low | low or high |
| ● Music does not start and disc continues to rotate for STOP →▶PLAY or automatic selection (⏮, ⏭ buttons pressed.) | — | low |
| ● Disc stops to rotate shortly after STOP→▶PLAY. | low or high | — |
| ● Sound is interrupted during PLAY. Or time counter display stops. | — | low |
| ● More noises during the 2-axis device operation. | high | high |

The following is simple adjustment method.

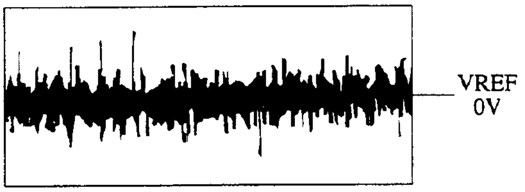
— Simple adjustment —

Note: Since the exact adjustment cannot be performed, remember the positions of the controls before the performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

Procedure:



1) Keep the set horizontal. (If the set is not kept horizontally, this adjustment cannot be performed due to the gravity against the 2-axis device.)
2) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
3) Connect an oscilloscope to TP3 (TE), TP2 (VREF) of the CD MECHA C.B.
4) Adjust SFR103 so that the waveform appears as shown in the figure below. (tracking gain adjustment)

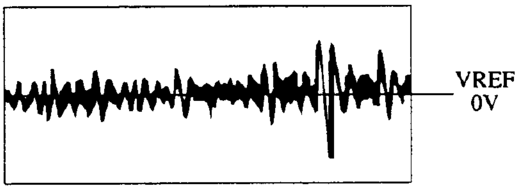


VOLT/DIV: 50 mV
TIME/DIV: 1mS

- Incorrect example

Low tracking gain

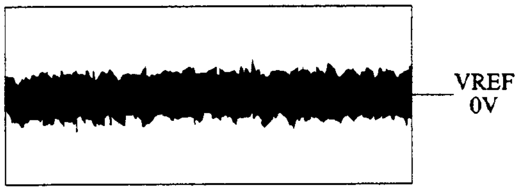
The fundamental wave appears as compared with the waveform adjusted.



VOLT/DIV: 50 mV
TIME/DIV: 1mS

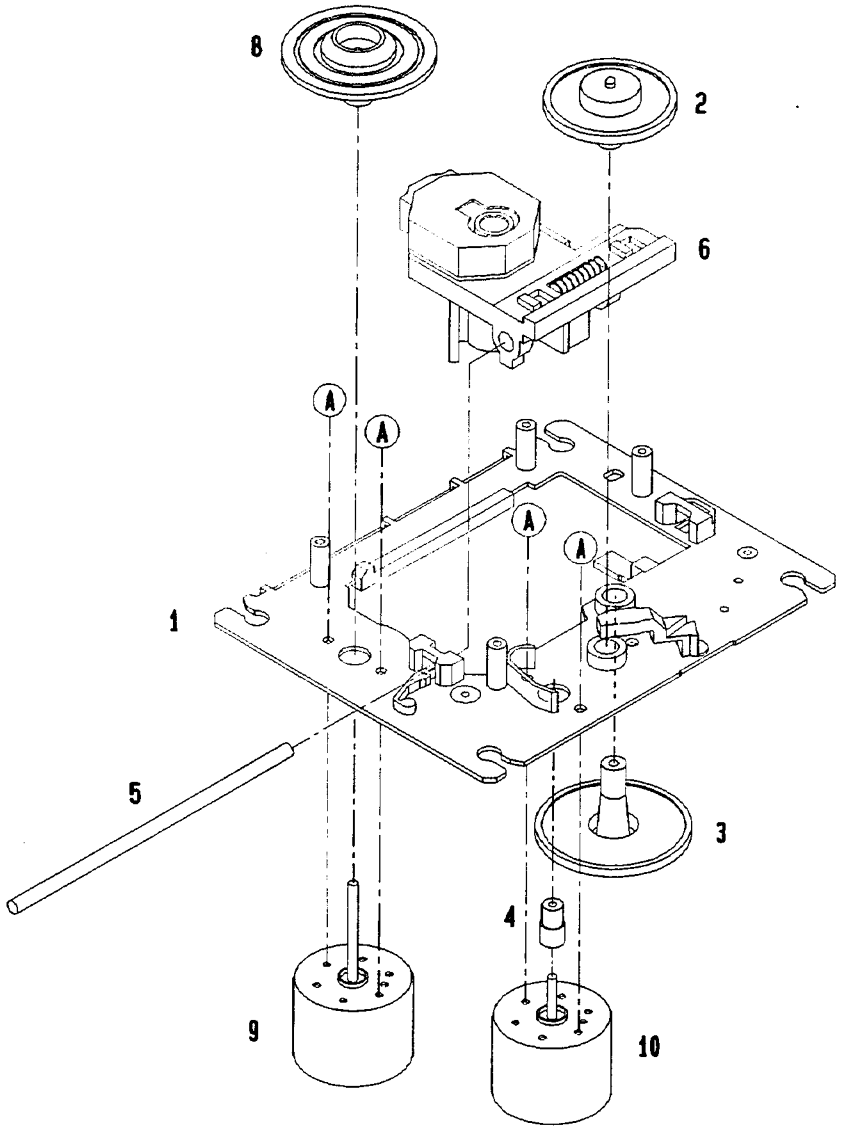
High tracking gain

The frequency of the fundamental wave is higher than that in low gain.



VOLT/DIV: 50 mV
TIME/DIV: 1mS

## CD MECHANISM EXPLODED VIEW 1 ／ 1 (3ZG-2 C1N <V2, V3>)



## CD MECHANISM PARTS LIST 1 ／ 1 (3ZG-2 C1N <V2, V3>)

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

| REF. NO | PART NO. | カンリ NO. | DESCRIPTION | REF. NO | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|---|---|---|---|
| 1 | 83-ZG2-202-61K | 1C | O-SERT S ASSY,S | 6 | 87-070-445-010 | 2C | PICK-UP,KSS-213B |
| 2 | 83-ZG2-204-419 | 0E | GEAR,A | 8 | 83-ZG2-222-01K | 1B | TURN TABLE,A5 |
| 3 | 83-ZG2-205-219 | 0E | GEAR,B | 9 | 87-045-358-019 | 1F | MOT,RF-310T A 43 |
| 4 | 83-ZG2-220-01K | 0E | GEAR MOTOR 2 | 10 | 87-045-356-019 | 1F | MOT,RF-310T A 30 |
| 5 | 83-ZG2-207-119 | 1A | SHAFT,SLIDE | A | 87-261-032-219 | 0E | SCREW V+2-3 |

# 4ZG-1S

## ELECTRICAL MAIN PARTS LIST

DESCRIPTION で判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

| REF. NO. | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| IC | | | |
| | 87-017-745-019 | 2A | IC,CXA1782BQ |
| | 87-070-294-019 | 2B | IC,CXD2508AQ |
| | 87-017-825-019 | 1E | IC,GP1F32T<D> |
| | 87-017-888-089 | 1A | IC,NJM4558MD |
| | 87-020-501-089 | 1A | IC,TA78L005AP |
| | 87-017-801-080 | 1H | IC,TA2058F |
| | 87-001-982-019 | 1B | IC,TA7291S |
| | 87-017-802-010 | 2Y | IC,LC7872E<G> |
| | 87-002-892-089 | 1C | IC,MM1031XMR<G> |
| | 87-017-803-010 | 2A | IC,LC32464P-80<G> |
| TRANSISTOR | | | |
| | 87-026-463-089 | 0E | TR, 2SA933S (RS) |
| | 87-026-233-089 | 0E | C-TR,DTA114TK |
| | 87-026-211-089 | 0E | C-TR,DTA144EK T147 |
| | 89-109-340-489 | 0E | TR,2SA934Q |
| | 89-318-155-089 | 0E | TR,2SC1815GR |
| | 89-421-722-389 | 0E | TR,2SD2172V/W |
| | 89-320-011-089 | 0E | TR,2SC2001K |
| | 87-026-223-089 | 0E | C-TR,DTC143TK |
| | 87-026-608-089 | 0E | C-TR,DTC 123 JK<F,FJ> |
| DIODE | | | |
| | 87-002-564-089 | 0E | DIODE 1SS133 RA |
| | 87-020-465-089 | 0E | DIODE,1SS133 |
| 3CD C.B | | | |
| C11 | 87-010-182-089 | 0E | C-CAP,S 2200P-50 B |
| C12 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C13 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C14 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C15 | 87-010-404-089 | 0E | CAP,E 4.7-50 SME |
| C16 | 87-010-193-089 | 0E | C-CAP,S 0.033-25 F |
| C17 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C18 | 87-010-402-049 | 0E | CAP E2.2-50 SME |
| C19 | 87-010-382-049 | 0E | CAP,E 22-25 SME |
| C20 | 87-010-213-029 | 0E | C-CAP,S 0.015-50 B |
| C21 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C22 | 87-010-263-049 | 0E | CAP,E 100-10 |
| C23 | 87-015-819-089 | 0E | CHIP CAP 0.01 |
| C24 | 87-010-193-089 | 0E | C-CAP,S 0.033-25 F |
| C25 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C26 | 87-010-193-089 | 0E | C-CAP,S 0.033-25 F |
| C27 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C28 | 87-010-146-089 | 0E | C-CAP,S 2P-50 CH |
| C29 | 87-010-154-089 | 0E | C-CAP,S 10P-50 CH |
| C30 | 87-010-263-089 | 0E | CAP,E 100-10 SME 5X11 |
| C31 | 87-010-178-089 | 0E | C-CAP,S 1000P-50 B |
| C32 | 87-010-198-089 | 0E | C-CAP,S 0.022-25 B |
| C33 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C34 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C35 | 87-010-263-089 | 0E | CAP,E 100-10 SME 5X11 |
| C36 | 87-010-248-089 | 0E | CAP,E 220-10 SME |
| C37 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C38 | 87-010-260-089 | 0E | CAP,E 47-25 SME |
| C39 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C101 | 87-010-194-089 | 0E | C-CAP,S 0.047-25 F |
| C102 | 87-010-186-089 | 0E | C-CAP,S 4700P-50 B |
| C103 | 87-010-187-089 | 0E | C-CAP,S 5600P-50 B |
| C104 | 87-012-156-089 | 0E | C-CAP,S 220P-50 CH |
| C105 | 87-010-404-089 | 0E | CAP,E 4.7-50 SME |
| C106 | 87-010-263-049 | 0E | CAP,E 100-10 |
| C107 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C108 | 87-010-400-049 | 0E | CAP,E 0.47-50 |
| C109 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C110 | 87-010-180-089 | 0E | C-CAP,S 1500P-50 B |
| C112 | 87-010-318-089 | 0E | C-CAP,S 47P-50 CH<D> |
| C113 | 87-010-263-089 | 0E | CAP,E 100-10 SME 5X11 |
| C114 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C115 | 87-010-318-089 | 0E | C-CAP,S 47P-50 CH |
| C116 | 87-010-318-089 | 0E | C-CAP,S 47P-50 CH |
| C117 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C118 | 87-010-263-089 | 0E | CAP,E 100-10 SME<D> |
| C201 | 87-012-153-089 | 0E | C-CAP,S 120P-50 CH |
| C202 | 87-012-153-089 | 0E | C-CAP,S 120P-50 CH |
| C203 | 87-010-321-089 | 0E | C-CAP,S 82P-50 CH |
| C204 | 87-010-321-089 | 0E | C-CAP,S 82P-50 CH |
| C205 | 87-010-321-089 | 0E | C-CAP,S 82P-50 CH |
| C206 | 87-010-321-089 | 0E | C-CAP,S 82P-50 CH |
| C207 | 87-012-153-089 | 0E | C-CAP,S 120P-50 CH |
| C208 | 87-012-153-089 | 0E | C-CAP,S 120P-50 CH |
| C209 | 87-012-153-089 | 0E | C-CAP,S 120P-50 CH |
| C210 | 87-012-153-089 | 0E | C-CAP,S 120P-50 CH |
| C211 | 87-010-401-089 | 0E | CAP,E 1-50 SME |
| C212 | 87-010-401-089 | 0E | CAP,E 1-50 SME |
| C213 | 87-010-186-089 | 0E | C-CAP,S 4700P-50 B |
| C214 | 87-010-186-089 | 0E | C-CAP,S 4700P-50 B |
| C231 | 87-010-221-089 | 0E | CAP,E 470-10 |
| C232 | 87-010-263-089 | 0E | CAP,E 100-10 SME |
| C301 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C302 | 87-015-688-019 | 0E | CAP,E 4.7-50 7L |
| C303 | 87-010-248-089 | 0E | CAP,E 220-10 SME |
| C304 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C305 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C306 | 87-016-459-049 | 0E | CAP,E 470-10 SMG |
| C501 | 87-016-459-049 | 0E | CAP,E 470-10 SMG |
| C502 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C503 | 87-010-260-049 | 0E | CAP,E 47-25 SME |
| C504 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C505 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C506 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C507 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C508 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C509 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C510 | 87-010-178-089 | 0E | C-CAP,S 1000P-50 B |
| C601 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C602 | 87-010-381-089 | 0E | CAP,E 330-16 SME |
| C603 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C701 | 87-010-322-089 | 0E | C-CAP,S 100P-50 CH |
| C702 | 87-010-297-089 | 0E | C-CAP 100P-50CH |
| C703 | 87-010-318-089 | 0E | C-CAP,S 47P-50 CH |
| C704 | 87-010-178-089 | 0E | C-CAP,S 1000P-50 B |
| C712 | 87-010-265-049 | 0E | CAP,E 33-16 SME |
| C801 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G> |
| C802 | 87-010-374-049 | 0E | CAP,E 47-10<G> |
| C803 | 87-010-194-089 | 0E | C-CAP,S 0.047-25 F<G> |
| C804 | 87-010-260-089 | 0E | CAP,E 47-25 SME<G> |

| REF. NO. | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| C805 | 87-015-819-029 | 0E | C-CAP,0.01-50 BK<G> |
| C806 | 87-010-260-089 | 0E | CAP,E 47-25 SME<G> |
| C807 | 87-010-405-089 | 0E | CAP,E 10-50 SME<G> |
| C808 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G> |
| C809 | 87-010-405-089 | 0E | CAP,E 10-50 SME<G> |
| C810 | 87-010-313-089 | 0E | C-CAP,S 18P-50 CH<G> |
| C811 | 87-010-314-089 | 0E | C-CAP,S 22P-50 CH<G> |
| C812 | 87-010-313-089 | 0E | C-CAP,S 18P-50 CH<G> |
| C813 | 87-010-315-089 | 0E | C-CAP,S 27P-50 CH<G> |
| C814 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G> |
| C815 | 87-010-260-089 | 0E | CAP,E 47-25 SME<G> |
| C816 | 87-010-260-089 | 0E | CAP,E 47-25 SME<G> |
| C817 | 87-010-221-089 | 0E | CAP,E 470-10<G> |
| C818 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F<G> |
| C819 | 87-010-321-089 | 0E | C-CAP,S 82P-50 CH<G> |
| C820 | 87-010-178-089 | 0E | C-CAP,S 1000P-50 B<G> |
| CON1 | 84-ZG1-610-019 | 1B | CONN ASSY,8P-W |
| CON2 | 84-ZG1-611-119 | 1B | CONN ASSY,8P-R |
| CON3 | 84-ZG1-612-019 | 1B | CONN ASSY,6P |
| EMI801 | 87-008-474-089 | 0E | F-BEAD,EMI BL02RN1<G> |
| EMI802 | 87-008-474-089 | 0E | F-BEAD,EMI BL02RN1<G> |
| J801 | 87-009-502-010 | 1A | JACK, PIN 1PY EARTH<G> |
| L11 | 87-003-295-089 | 0E | COIL,10UH |
| M601 | 87-045-305-019 | 1E | MOTOR, RF-500TB |
| SFR11 | 87-024-175-089 | 0E | SFR,47K DIA6 V |

| REF. NO. | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| SFR12 | 87-024-174-089 | 0E | SFR33K DIA6 V |
| SFR13 | 87-024-176-089 | 0E | SFR,100K DIA6 V |
| SW701 | 87-036-109-019 | 0E | SW,PUSH SPPB 61 |
| SW702 | 87-036-109-019 | 0E | SW,PUSH SPPB 61 |
| X101 | 87-030-402-089 | 1B | VIB,XTAL 16.9344 MHZ |
| X801 | 80-JUC-602-080 | 1C | VIB,XTAL 17.73MHZ<G> |
| X802 | 80-JUC-601-080 | 1C | VIB,XTAL 14.31MHZ<G> |

LED C.B<F,FJ>

| REF. NO. | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| LED701 | 87-017-350-080 | 0E | LED,SEL1550CM<FJ> |
| LED701 | 87-017-806-010 | 0E | LED,SEL1810DM<F> |
| LED702 | 87-017-733-080 | 0E | LED,SEL1250SM<FJ> |
| LED702 | 87-017-350-080 | 0E | LED,SEL1550CM<F> |
| LED703 | 87-017-733-080 | 0E | LED,SEL1250SM<FJ> |
| LED703 | 87-017-350-080 | 0E | LED,SEL1550CM<F> |
| LED704 | 87-017-350-080 | 0E | LED,SEL1550CM<FJ> |
| LED704 | 87-017-806-010 | 0E | LED,SEL1810DM<F> |

T-T C.B

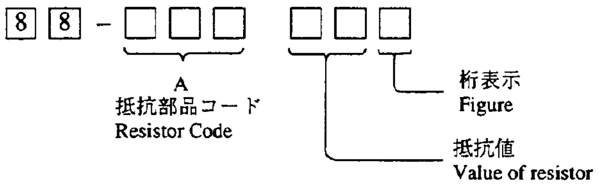
| REF. NO. | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| C401 | 87-018-214-089 | 0E | CAP TC U 0.1-50 F |
| FC401 | 84-ZG1-614-119 | 1A | CABLE FFC 5P-1.25 |
| M401 | 87-045-364-019 | 1D | MOTOR,(BCH3B14) |
| PS401 | 87-026-573-019 | 1B | P-SNSR,GP1S53V |

MOTOR C.B

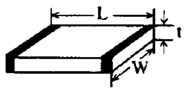
| REF. NO. | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| PIN105 | 91-564-722-110 | 1C | CONNECTOR 6P |
| M020 | 9X-262-513-210 | 2M | SLED MOTOR ASSY |
| SW001 | 91-572-085-110 | 1B | LEAF SW |

○ チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗
Chip resistor

| 容量<br>Wattage | 種類<br>Type | 許容誤差<br>Tolerance | 記号<br>Symbol | 寸法／Dimensions (mm) | | | | 抵抗コード ：A<br>Resistor Code: A |
|---|---|---|---|---|---|---|---|---|
| | | | | 外形／Form | L | W | t | |
| 1／16W | 1608 | ±5% | CJ |  | 1.6 | 0.8 | 0.45 | 108 |
| 1／10W | 2125 | ±5% | CJ | | 2 | 1.25 | 0.45 | 118 |
| 1／8W | 3216 | ±5% | CJ | | 3.2 | 1.6 | 0.55 | 128 |

4ZG-1<G, D, F, FJ, R, V, VI, CR> と共通部分は、下記のページを参照して下さい。
Refer to the following pages for the 4ZG-1<G, D, F, FJ, R, V, VI and CR> and the common sections.

## ■ IC DESCRIPTION

| | |
|---|---|
| CXA1782BQ | 17ページ参照<br>See Page 23 |
| LC7872E | 21ページ参照<br>See Page 27 |

## ■ IC BLOCK DIAGRAM

| | |
|---|---|
| TA2058F<br>LC32464P-80 | 29ページ参照<br>See Page 29 |
| TA7291S | 30ページ参照<br>See Page 30 |

## ■ ELECTRICAL ADJUSTMENT

33ページを参照して下さい。
See Page 36.

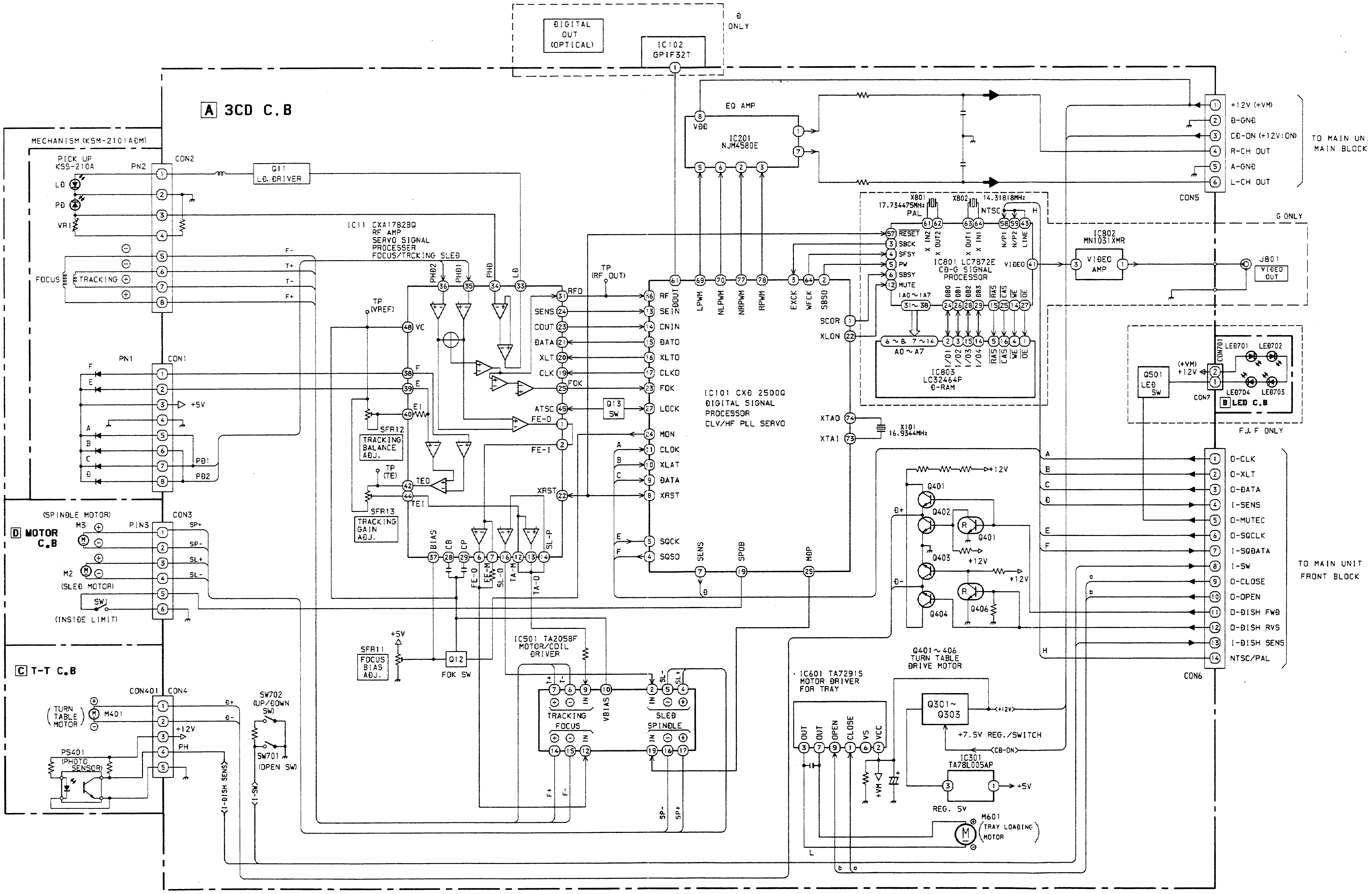
## ■ MECHANICAL EXPLODED VIEW 1／1

38ページを参照して下さい。
See Page 38.

## ■ MECHANICAL PARTS LIST 1／1

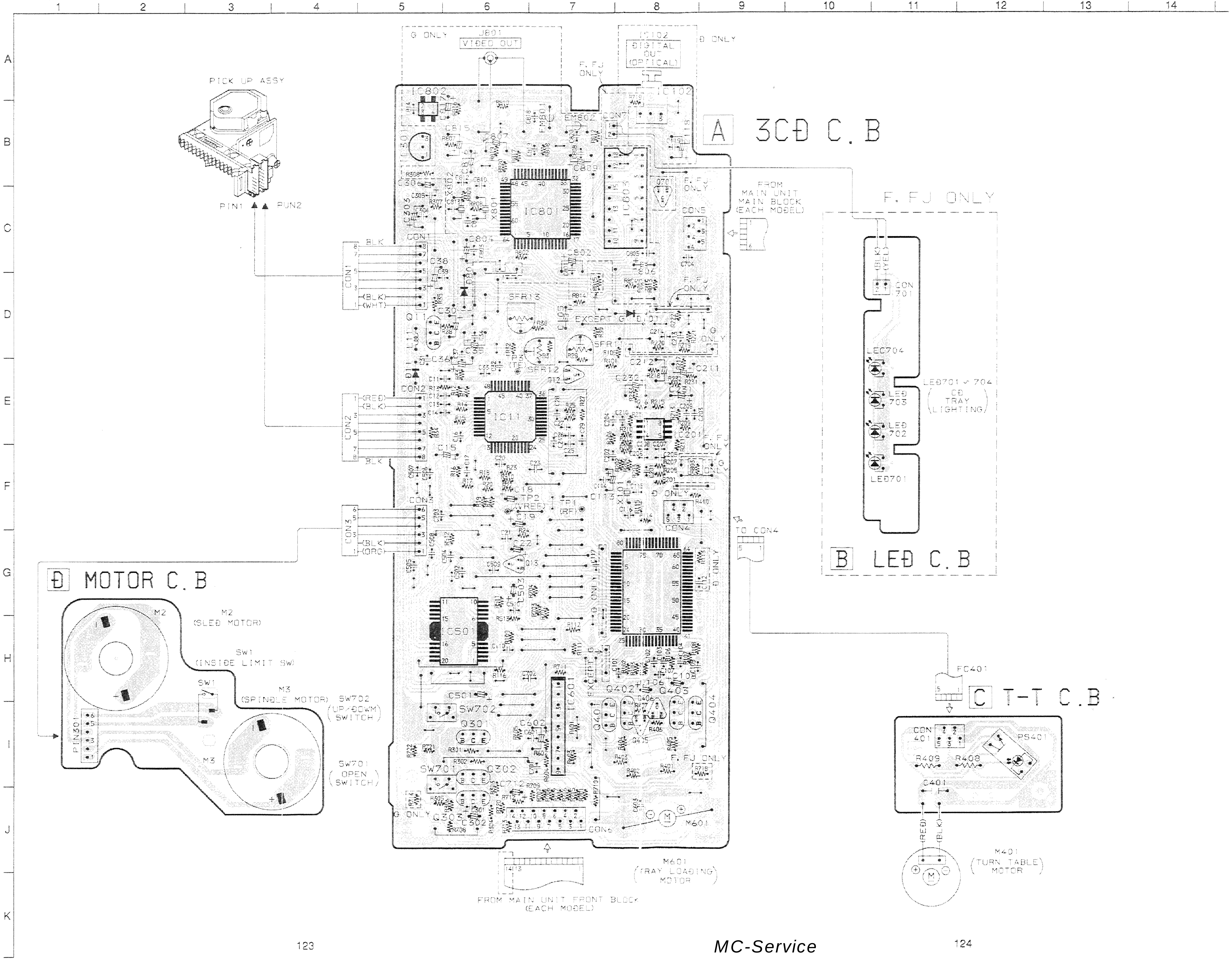
39ページを参照して下さい。
See Page 39.

# BLOCK DIAGRAM



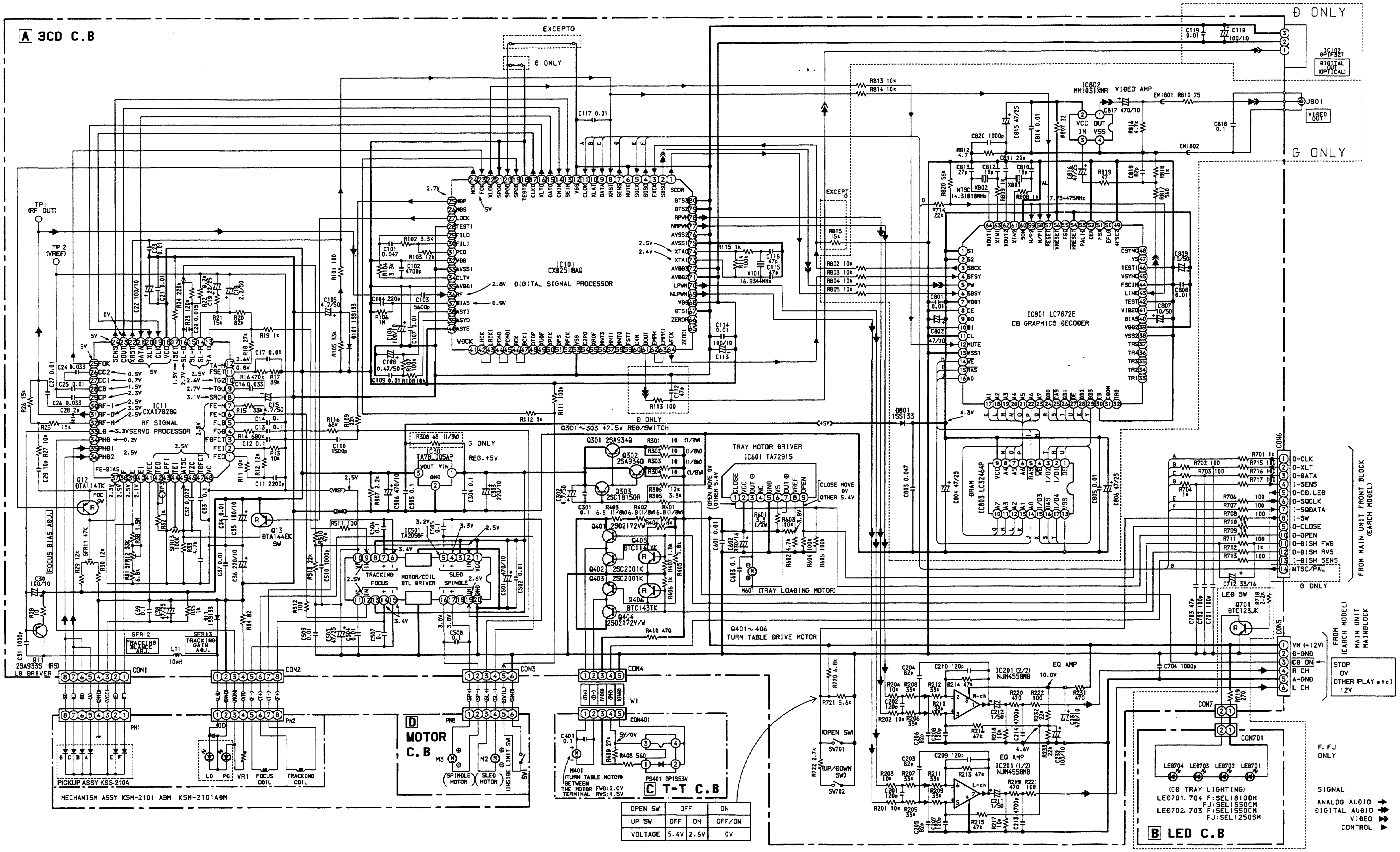
DIGITAL OUT (OPTICAL)
IC102 GP1F32T
D ONLY
A 3CD C.B
MECHANISM (KSM-2101ADM)
PICK UP KSS-210A
PN2
CON2
LD
PD
VR1
Q11 LD DRIVER
FOCUS
TRACKING
IC11 CXA1782BQ RF AMP SERVO SIGNAL PROCESSER FOCUS/TRCKING SLED
PHD2
PHD1
PHD
LD
TP (VREF)
VC
TP (RF OUT)
RFO
SENS
COUT
DATA
XLT
CLK
FOK
ATSC
FE-O
FE-I
XRST
Q13 SW
PN1
CON1
+5V
PD1
PD2
SFR12 TRACKING BALANCE ADJ.
TP (TE)
TEO
TEI
SFR13 TRACKING GAIN ADJ.
BIAS
CB
CP
FE-O
FE-M
SL-O
TA-M
TA-O
SL-P
EQ AMP
VDD
IC201 NJM4580E
IC101 CXD 2500Q DIGITAL SIGNAL PROCESSOR CLV/HF PLL SERVO
RF
DOUT
SEIN
CNIN
DATO
XLTO
CLKO
FOK
LOCK
MON
CLOK
XLAT
DATA
XRST
SQCK
SQSO
SENS
SPOD
MDP
LPWM
NLPWM
NRPWM
RPWM
EXCK
WFCK
SBSO
SCOR
XLON
XTAO
XTAI
X101 16.9344MHz
X801 17.734475MHz PAL
X802 14.31818MHz NTSC
IC801 LC7872E CD-G SIGNAL PROCESSOR
RESET
SBCK
SFSY
PW
SBSY
MUTE
IA0~IA7
X IN2
X OUT2
X OUT1
X IN1
N/P1
N/P2
LINE
VIDEO
DB0
DB1
DB2
DB3
RAS
CAS
WE
OE
IC803 LC32464P D-RAM
A0~A7
I/O1
I/O2
I/O3
I/O4
G ONLY
IC802 MN1031XMR
VIDEO AMP
J801 VIDEO OUT
CON5
+12V (+VM)
D-GND
CD-ON (+12V:ON)
R-CH OUT
A-GND
L-CH OUT
TO MAIN UN. MAIN BLOCK
CON701
LED701
LED702
LED704
LED703
Q501 LED SW
(+VM) +12V
CON7
B LED C.B
F.J. F ONLY
CON6
O-CLK
O-XLT
O-DATA
I-SENS
O-MUTEC
O-SQCLK
I-SQDATA
I-SW
O-CLOSE
O-OPEN
O-DISH FWD
O-DISH RVS
I-DISH SENS
NTSC/PAL
TO MAIN UNIT FRONT BLOCK
Q401
Q402
Q403
Q404
Q406
+12V
Q401~406 TURN TABLE DRIVE MOTOR
D MOTOR C.B
(SPINDLE MOTOR)
M3
PIN3
CON3
SP+
SP-
SL+
SL-
M2
(SLED MOTOR)
SW1
(INSIDE LIMIT)
SFR11 FOCUS BIAS ADJ.
Q12
FOK SW
IC501 TA2058F MOTOR/COIL DRIVER
TRACKING
FOCUS
VBIAS
SLED
SPINDLE
F+
F-
SP-
SP+
C T-T C.B
CON401
CON4
TURN TABLE MOTOR
M401
PS401 (PHOTO SENSOR)
PH
SW702 (UP/DOWN SW)
SW701 (OPEN SW)
I-DISH SENS
I-SW
IC601 TA7291S MOTOR DRIVER FOR TRAY
OUT
OPEN
CLOSE
VS
VCC
+VM
Q301~Q303
+7.5V REG./SWITCH
CD-ON
IC301 TA78L005AP
+5V
REG. 5V
M601 (TRAY LOADING MOTOR)

## WIRING


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
K
A 3CD C.B
B LED C.B
C T-T C.B
D MOTOR C.B
PICK UP ASSY
PIN1
PIN2
G ONLY
J801
VIDEO OUT
D ONLY
IC102
DIGITAL OUT (OPTICAL)
F, FJ ONLY
FROM MAIN UNIT MAIN BLOCK (EACH MODEL)
F, FJ ONLY
IC802
IC801
IC803
IC11
IC201
IC501
IC601
CON1
CON2
CON3
CON4
CON5
CON6
CON7
BLK
(BLK)
(WHT)
(RED)
(ORG)
SFR13
SFR12
SFR11
TP1 (RF)
TP2 (VREF)
TP3 (TE)
EXCEPT G
G ONLY
F, FJ ONLY
D ONLY
TO CON4
SW701
SW702
Q301
Q302
Q303
Q401
Q402
Q403
Q404
Q405
M601
M601 (TRAY LOADING MOTOR)
FROM MAIN UNIT FRONT BLOCK (EACH MODEL)
CON 701
LED704
LED 703
LED 702
LED701
LED701 ~ 704 (CD TRAY LIGHTING)
FC401
CON 401
PS401
R409
R408
C401
(RED)
(BLK)
M401 (TURN TABLE MOTOR)
M2 (SLED MOTOR)
SW1 (INSIDE LIMIT SW)
SW1
M3 (SPINDLE MOTOR)
M3
SW702 (UP/DOWN SWITCH)
SW701 (OPEN SWITCH)
PIN301

MC-Service

# SCHEMATIC DIAGRAM


A 3CD C.B
B LED C.B
C T-T C.B
D MOTOR C.B
D ONLY
G ONLY
EXCEPT G
IC101 CXD2518AQ DIGITAL SIGNAL PROCESSOR
IC11 CXA1782BQ RF SIGNAL SERVO PROCESSOR
IC801 LC7872E CD GRAPHICS DECODER
IC802 MM1031XMR VIDEO AMP
IC803 LC3264P DRAM
IC601 TA7291S TRAY MOTOR DRIVER
IC501 TA2058F MOTOR/COIL BTL DRIVER
IC301 TA78L005AP REG.+5V
IC201 (1/2) NJM4558MD EQ AMP
IC201 (2/2) NJM4558MD EQ AMP
IC102 OPTICAL DIGITAL OUT
J801 VIDEO OUT
Q301~303 +7.5V REG/SWITCH
Q401~406 TURN TABLE DRIVE MOTOR
M601 TRAY LOADING MOTOR
M401 TURN TABLE MOTOR
PS401 SPI5S3V
SW701 OPEN SW
SW702 UP/DOWN SW
PICKUP ASSY KSS-210A
MECHANISM ASSY KSM-2101 ABM KSM-2101ABM
FOCUS BIAS ADJ.
SFR12 TRACKING BALANCE ADJ.
SFR13 TRACKING GAIN ADJ.
Q11 2SA933S (RS) LD DRIVER
TP1 (RF OUT)
TP2 (VREF)
CON1
CON2
CON3
CON4
CON5
CON6
CON7
CON701
FROM MAIN UNIT FRONT BLOCK (EARCH MODEL)
FROM (EARCH MODEL) MAIN UNIT MAINBLOCK
STOP 0V
OTHER (PLAY etc) 12V
(CD TRAY LIGHTING)
LED701, 704 F:SEL1810DM FJ:SEL1550CM
LED702, 703 F:SEL1550CM FJ:SEL1250SM
F, FJ ONLY
SIGNAL
ANALOG AUDIO
DIGITAL AUDIO
VIDEO
CONTROL
OPEN SW | OFF | ON
UP SW | OFF | ON | OFF/ON
VOLTAGE | 5.4V | 2.6V | 0V

MC-Service

# IC DESCRIPTION

## IC, CXD2508AQ

| 端子番号 | 端子名称 | I/O | 機　能　説　明 |
|---|---|---|---|
| 1 | SCOR | O | サブコードシンクS0かS1どちらか検出された時H。 |
| 2 | SBSO | O | SUBP～Wのシリアル出力。 |
| 3 | EXCK | I | SBSOリード・アウト用クロック入力。 |
| 4 | SQSO | O | SUBQ 80BITのシリアル出力。 |
| 5 | SQCK | I | SQSOリード・アウト用クロック入力。 |
| 6 | MUTE | I | Hでミュート、Lで解除。 |
| 7 | SENS | O | SENS出力、CPUへ出力。 |
| 8 | XRST | I | システムリセット、Lでリセット。 |
| 9 | DATA | I | CPUよりシリアルデータ入力。 |
| 10 | XLAT | I | CPUよりラッチ入力、立ち下がりでシリアルデータをラッチ。 |
| 11 | CLOK | I | CPUよりシリアルデータ転送クロック入力。 |
| 12 | VSS | — | GND端子。 |
| 13 | SEIN | I | SSPよりセンス入力。 |
| 14 | CNIN | I | トラックジャンプ数カウント信号入力。 |
| 15 | DATO | O | SSPへのシリアルデータ出力。 |
| 16 | XLTO | O | SSPへのシリアルデータラッチ出力、立ち下がりでラッチ。 |
| 17 | CLKO | O | SSPへのシリアルデータ転送クロック出力。 |
| 18、20 | SPOA、C | I | マイコン拡張インターフェース。 |
| 19 | XTSL | I | Xtal選択入力端子。Xtalが16.9344MHzの時L、33.8688MHzの時Hにする。 |
| 22 | XLON | O | マイコン拡張インターフェース。 |
| 23 | FOK | I | フォーカスOK入力端子、SENS出力とサーボ・オートシーケンサに用いる。 |
| 24 | MON | O | スピンドルモータのON/OFFコントロール出力。 |
| 25 | MDP | O | スピンドルモータのサーボ制御。 |
| 26 | MDS | O | スピンドルモータのサーボ制御。 |
| 27 | LOCK | O | GFSを460Hzでサンプリングし、GFSがHの時H出力、8回連続Lの時L出力。 |
| 28 | TEST1 | I | TEST用端子。(GNDへ接続) |
| 29 | FILO | O | マスターPLL用（スレーブ=デジタルPLL）フィルター出力。 |
| 30 | FILI | I | マスターPLL用フィルター入力。 |
| 31 | PCO | O | マスターPLL用チャージポンプ出力。 |
| 32 | VDD | — | 電源端子。(+5V) |
| 33 | AVSS1 | — | GND端子。 |
| 34 | CLTV | I | マスターPLL用VCOコントロール電圧入力。 |
| 35 | AVDD1 | — | 電源端子。(+5V) |
| 36 | RF | I | EFM信号入力。 |
| 37 | BIAS | I | アシンメトリ補正回路定電流入力。 |
| 38 | ASYI | I | アシンメトリ補正回路コンパレート電圧入力。 |
| 39 | ASYO | O | EFMフルスイング出力。(L=VSS、H=VDD) |
| 40 | ASYE | I | L:アシンメトリ補正OFF、H:アシンメトリ補正ON。 |
| 41 | WDCK | O | 48bitスロット用D/Aインターフェイス、ワードクロック（2Fs)。 |
| 42 | LRCK | O | 48bitスロット用D/Aインターフェイス、LRクロック（Fs)。 |
| 43 | LRCKI | I | DACへのLRクロック入力。(48bitスロット) |
| 44 | PCMD | O | D/Aインターフェイス、シリアルデータ。(2’COMP, MSBファースト) |
| 45 | PCMDI | I | DACへのオーディオデータ入力。(48bitスロット) |
| 46 | BCK | O | D/Aインターフェイス、ビットクロック。 |
| 47 | BCKI | I | DACへのビットクロック入力。(48bitスロット) |
| 48 | GTOP | O | GTOP出力。 |
| 49 | XUGF | O | XUGF出力。 |
| 50 | XPCK | O | XPLCK出力。 |
| 51 | GFS | O | GFS出力。 |
| 52 | RFCK | O | RFCK出力。 |
| 53 | VSS | — | GND端子。 |
| 54 | C2PO | O | C2PO出力。 |
| 55 | XROF | O | XRAOF出力。 |
| 56 | MNT3 | O | MNT3出力。 |
| 57 | MNT1 | O | MNT1出力。 |
| 58 | MNT0 | O | MNT0出力。 |
| 59 | FSTT | O | 73,74端子の2/3分周出力。 |
| 60 | C4M | O | 4.2336MHz出力。 |
| 61 | DOUT | O | Digital Out出力端子。 |
| 62 | EMPH | O | 再生ディスクがエンファシス有りの時H、無しの時L。 |
| 63 | EMPHI | I | DACのディエンファシスON/OFF、HでON、LでOFF。 |
| 64 | WFCK | O | WFCK（WRITE FRAME CLOCK）出力。 |
| 65 | ZEROL | O | 無音データ検出出力、無音データ検出時“H”(Lch)。 |
| 66 | ZEROR | O | 無音データ検出出力、無音データ検出時“H”(Rch)。 |
| 67 | DTSI | I | DAC用テスト端子。(通常L) |
| 68 | VDD | — | 電源端子。(+5V) |
| 69 | NLPWM | O | Lch PWM出力。(正相) |
| 70 | LPWM | O | Lch PWM出力。(逆相) |
| 71 | AVDD2 | — | Lch PWMドライバー用電源。(+5Vへ接続) |
| 72 | AVDD3 | — | Xtal用電源。(+5Vへ接続) |
| 73 | XTAI | I | 33.8688MHzのXtal発振回路入力。 |
| 74 | XTAO | O | 33.8688MHzのXtal発振回路出力。 |
| 75 | AVSS1 | — | XtalへのGND入力。(GNDへ接続) |
| 76 | AVSS2 | — | PWMドライバへのGND入力。(GNDへ接続) |
| 77 | NRPWM | O | Rch PWM出力。(逆相) |
| 78 | RPWM | O | Rch PWM出力。(正相) |
| 79 | DTS2 | I | DAC用テスト端子2。(通常L) |
| 80 | DTS3 | I | DAC用テスト端子3。(通常L) |

## IC, CXD2508AQ

| Pin No. | Pin name | I/O | Description |
|---|---|---|---|
| 1 | SCOR | O | 1H when the subcode sync S0 or S1 is detected. |
| 2 | SBSO | O | SUBP~W serial output. |
| 3 | EXCK | I | Clock input for SBSO read out. |
| 4 | SQSO | O | SUBQ 80-bit serial output. |
| 5 | SQCK | I | Clock input for SQSO read out. |
| 6 | MUTE | I | H to mute. L to cancel. |
| 7 | SENS | O | SENS signal output to CPU. |
| 8 | XRST | I | System reset. L to reset. |
| 9 | DATA | I | Serial data input from CPU . |
| 10 | XLAT | I | Latch input from CPU. Latching serial data at fall down. |
| 11 | CLOK | I | Clock input from CPU to transfer serial data. |
| 12 | VSS | — | GND. |
| 13 | SEIN | I | SENS input from SSP. |
| 14 | CNIN | I | Numbers of track jump are counted and input. |
| 15 | DATO | O | Serial data output to SSP. |
| 16 | XLTO | O | Serial data latched output to SSP. Latched at fall down edge. |
| 17 | CLKO | O | Clock input from SSP to transfer serial data. |
| 18, 20 | SPOA, C | I | Microprocessor expansion interface. |
| 19 | XTSL | I | X'tal selection input terminal. "L" at 16.9344MHz X'tal. "H" at 33.86888MHz. |
| 22 | XLON | O | Microprocessor expansion interface. |
| 23 | FOK | I | Focus OK input pin. Used for SENS output and servo auto sequencer. |
| 24 | MON | O | Spindle motor ON/OFF control output. |
| 25 | MDP | O | Spindle motor servo control output. |
| 26 | MDS | O | Spindle motor servo control output. |
| 27 | LOCK | O | GFS is sampled by 460Hz. H output when GFS is H. L output when GFS is L for 8 consecutive times. |
| 28 | TEST1 | I | TEST. (Connected to GND) |
| 29 | FILO | O | Filter output to master PLL. (slave=digital PLL) |
| 30 | FILI | I | Filter input to master PLL. |
| 31 | PCO | O | Charge-pump output to master PLL. |
| 32 | VDD | — | Power supply input. (+5V) |
| 33 | AVSS1 | — | GND. |
| 34 | CLTV | I | VCO control voltage input to master PLL. |
| 35 | AVDD1 | — | Power supply input. (+5V) |
| 36 | RF | I | EFM signal input. |
| 37 | BIAS | I | Constant current input to asymmetry correction circuit. |
| 38 | ASYI | I | Comparate voltage input to asymmetry correction circuit. |
| 39 | ASYO | O | EFM full swing output. (L=VSS, H=VDD) |
| 40 | ASYE | I | L: asymmetry correction OFF. H: asymmetry correction ON |
| 41 | WDCK | O | D/A interface, word clock (2Fs) for 48-bit slot. |
| 42 | LRCK | O | D/A interface, LR clock (Fs) for 48-bit slot. |
| 43 | LRCKI | I | LR clock input to DAC. (48-bit slot) |
| 44 | PCMD | O | D/A interface, serial data. (2's complement, MSB first) |
| 45 | PCMDI | I | Audio data input to DAC. (48-bit slot) |
| 46 | BCK | O | D/A interface, bit clock. |
| 47 | BCKI | I | Bit clock input to DAC. (48-bit slot) |
| 48 | GTOP | O | GTOP output. |
| 49 | XUGF | O | XUFG output. |
| 50 | XPCK | O | XPLCK output. |
| 51 | GFS | O | GFS output. |
| 52 | RFCK | O | RFCK output. |
| 53 | VSS | — | GND. |
| 54 | C2PO | O | C2PO output. |
| 55 | XROF | O | XRAOF output. |
| 56 | MNT3 | O | MNT3 output. |
| 57 | MNT1 | O | MNT1 output. |
| 58 | MNT0 | O | MNT0 output. |
| 59 | FSTT | O | Pins-73 and -74 divided-by 2/3 output. |
| 60 | C4M | O | 4.2336MHz output. |
| 61 | DOUT | O | Digital Out connector output signal. |
| 62 | EMPH | O | H when the playback disc has emphasis. L when it does not. |
| 63 | EMPHI | I | DAC emphasis ON/OFF. H when ON. L when OFF |
| 64 | WFCK | O | WFCK (WRITE FRAME CLOCK) output. |
| 65 | ZEROL | O | No sound data detection output. H (L-ch) when no sound data is detected. |
| 66 | ZEROR | O | No sound data detection output. H (R-ch) when no sound data is detected. |
| 67 | DTSI | I | TEST for DAC. (Normally "L") |
| 68 | VDD | — | Power supply input. (+5V) |
| 69 | NLPWM | O | L-ch PWM output. (reversed polarity) |
| 70 | LPWM | O | L-ch PWM output. (normal polarity) |
| 71 | AVDD2 | — | Power supply input to L-ch PWM driver. (Connected to +5V) |
| 72 | AVDD3 | — | Power supply input to X'tal. (Connected to +5V) |
| 73 | XTAI | I | X'tal input to 33.8688MHz oscillator circuit. |
| 74 | XTAO | O | 33.8688MHz X'tal oscillator circuit output. |
| 75 | AVSS1 | — | GND input to X'tal. (Connected GND) |
| 76 | AVSS2 | — | GND input to PWM driver. (Connected to GND) |
| 77 | NRPWM | O | R-ch PWM output. (reversed phase) |
| 78 | RPWM | O | R-ch PWM output. (normal phase) |
| 79 | DTS2 | I | TEST-2 for DAC. (Normally "L") |
| 80 | DTS3 | I | TEST-3 for DAC. (Normally "L") |

# 4ZG-1T

## ELECTRICAL MAIN PARTS LIST

DESCRIPTION で判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

| REF. NO. | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| IC | | | |
| | 87-002-407-010 | 1H | IC,TA8191F |
| | 87-070-101-010 | 2P | IC,TC9284AF |
| | 87-017-825-019 | 1E | IC,GP1F32T<D> |
| | 87-017-888-089 | 1A | IC,NJM4558MD |
| | 87-020-501-089 | 1A | IC,TA78L005AP |
| | 87-017-801-080 | 1H | IC,TA2058F |
| | 87-001-982-019 | 1B | IC,TA7291S |
| | 87-017-802-010 | 2Y | IC,LC7872E<G> |
| | 87-017-803-010 | 2A | IC,LC32464P-80<G> |
| TRANSISTOR | | | |
| | 87-026-463-089 | 0E | TR, 2SA933S (RS) |
| | 87-026-297-089 | 0E | C-TR,DTA144TK |
| | 89-109-521-089 | 0E | TR,2SA952K |
| | 89-327-124-089 | 0E | C-TR,2SC2712Y |
| | 89-421-722-389 | 0E | TR,2SD2172V/W |
| | 89-320-011-089 | 0E | TR,2SC2001K |
| | 87-026-223-089 | 0E | C-TR,DTC143TK |
| | 87-026-608-089 | 0E | C-TR,DTC 123 JK<F,FJ> |
| | 89-406-555-089 | 0E | TR,2SD655E<G> |
| | 87-026-239-089 | 0E | C-TR,DTC114TK<G> |
| DIODE | | | |
| | 87-002-564-089 | 0E | DIODE 1SS133 RA |
| | 87-020-465-089 | 0E | DIODE,1SS133<G> |
| 3CD C.B | | | |
| C1 | 87-010-406-089 | 0E | CAP,E 22-50 SME |
| C2 | 87-010-197-029 | 0E | C-CAP,S 0.01-25 B |
| C3 | 87-010-263-089 | 0E | CAP,E 100-10 SME |
| C4 | 87-010-401-089 | 0E | CAP,E 1-50 SME |
| C5 | 87-010-146-029 | 0E | C-CAP,S 2P-50 CH |
| C6 | 87-010-196-029 | 0E | C-CAP,S 0.1-25 F |
| C7 | 87-010-316-029 | 0E | C-CAP,S 33P-50 CH |
| C8 | 87-010-322-029 | 0E | C-CAP,S 100P-50 CH |
| C9 | 87-012-141-029 | 0E | C-CAP,S 0.22-16 F |
| C10 | 87-010-545-049 | 0E | CAP E 0.22-50 SME |
| C11 | 87-010-265-089 | 0E | CAP,E 33-16 SME |
| C12 | 87-010-193-029 | 0E | C-CAP,S 0.033-25 F |
| C13 | 87-010-197-029 | 0E | C-CAP,S 0.01-25 B |
| C14 | 87-010-248-089 | 0E | CAP,E 220-10 SME |
| C15 | 87-010-374-089 | 0E | CAP,E 47-10 |
| C16 | 87-010-403-089 | 0E | CAP,E 3.3-50 SME |
| C17 | 87-010-213-029 | 0E | C-CAP,S 0.015-50 B |
| C18 | 87-012-365-029 | 0E | C-CAP,S 0.027-25V BK |
| C19 | 87-010-189-029 | 0E | C-CAP,S 8200P-50 B |
| C20 | 87-010-198-029 | 0E | C-CAP,S 0.022-25 B |
| C21 | 87-010-320-029 | 0E | C-CAP,S 68P-50 CH |
| C22 | 87-010-187-029 | 0E | C-CAP,S 5600P-50 B |
| C23 | 87-010-263-049 | 0E | CAP,E 100-10 |
| C24 | 87-010-197-029 | 0E | C-CAP,S 0.01-25 B |
| C101 | 87-010-197-029 | 0E | C-CAP,S 0.01-25 B |
| C102 | 87-010-197-029 | 0E | C-CAP,S 0.01-25 B |
| C103 | 87-010-374-049 | 0E | CAP,E 47-10 |
| C104 | 87-010-374-049 | 0E | CAP,E 47-10 |
| C106 | 87-010-197-029 | 0E | C-CAP,S 0.01-25 B |
| C107 | 87-010-404-049 | 0E | CAP,E 4.7-50 SME |

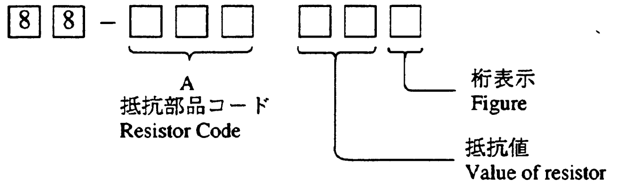
| REF. NO. | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| C108 | 87-010-197-029 | 0E | C-CAP,S 0.01-25 B |
| C109 | 87-010-248-089 | 0E | CAP,E 220-10 SME |
| C110 | 87-010-263-089 | 0E | CAP,E 100-10 SME |
| C111 | 87-010-178-029 | 0E | C-CAP,S 1000P-50 B |
| C112 | 87-010-197-029 | 0E | C-CAP,S 0.01-25 B |
| C113 | 87-010-184-029 | 0E | C-CAP,S 3300P-50 B |
| C114 | 87-010-263-049 | 0E | CAP,E 100-10 |
| C115 | 87-010-197-029 | 0E | C-CAP,S 0.01-25 B |
| C116 | 87-010-197-029 | 0E | C-CAP,S 0.01-25 B |
| C117 | 87-010-322-029 | 0E | C-CAP,S 100P-50 CH |
| C118 | 87-010-263-089 | 0E | CAP,E 100-10 SME<D> |
| C119 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<D> |
| C120 | 87-010-314-029 | 0E | C-CAP,S 22P-50 CH |
| C121 | 87-010-314-029 | 0E | C-CAP,S 22P-50 CH |
| C122 | 87-010-318-029 | 0E | C-CAP,S 47P-50 CH<D> |
| C123 | 87-010-197-029 | 0E | C-CAP,S 0.01-25 B |
| C124 | 87-010-184-029 | 0E | C-CAP,S 3300P-50 B |
| C125 | 87-010-805-029 | 0E | C-CAP,S 1-16F |
| C201 | 87-010-318-029 | 0E | C-CAP,S 47P-50 CH |
| C202 | 87-010-318-029 | 0E | C-CAP,S 47P-50 CH |
| C203 | 87-010-321-089 | 0E | C-CAP,S 82P-50 CH |
| C204 | 87-010-321-089 | 0E | C-CAP,S 82P-50 CH |
| C205 | 87-010-321-089 | 0E | C-CAP,S 82P-50 CH |
| C206 | 87-010-321-089 | 0E | C-CAP,S 82P-50 CH |
| C207 | 87-012-153-089 | 0E | C-CAP,S 120P-50 CH |
| C208 | 87-012-153-089 | 0E | C-CAP,S 120P-50 CH |
| C209 | 87-012-153-089 | 0E | C-CAP,S 120P-50 CH |
| C210 | 87-012-153-089 | 0E | C-CAP,S 120P-50 CH |
| C211 | 87-010-403-089 | 0E | CAP,E 3.3-50 SME |
| C212 | 87-010-403-089 | 0E | CAP,E 3.3-50 SME |
| C213 | 87-010-186-089 | 0E | C-CAP,S 4700P-50 B |
| C214 | 87-010-186-089 | 0E | C-CAP,S 4700P-50 B |
| C231 | 87-010-221-089 | 0E | CAP,E 470-10 |
| C232 | 87-010-263-089 | 0E | CAP,E 100-10 SME |
| C301 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C302 | 87-010-404-049 | 0E | CAP,E 4.7-50 SME |
| C303 | 87-010-248-089 | 0E | CAP,E 220-10 SME |
| C304 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C305 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C306 | 87-010-374-049 | 0E | CAP,E 47-10 |
| C501 | 87-016-459-049 | 0E | CAP,E 470-10 SMG |
| C502 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C503 | 87-010-374-049 | 0E | CAP,E 47-10 |
| C504 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C505 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C506 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C507 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C508 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C509 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C601 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B |
| C602 | 87-010-381-089 | 0E | CAP,E 330-16 SME |
| C603 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F |
| C707 | 87-010-178-029 | 0E | C-CAP,S 1000P-50 B |
| C801 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G> |
| C802 | 87-010-374-049 | 0E | CAP,E 47-10<G> |
| C803 | 87-010-194-089 | 0E | C-CAP,S 0.047-25 F<G> |
| C804 | 87-010-374-089 | 0E | CAP,E 47-10<G> |
| C805 | 87-010-197-029 | 0E | C-CAP,S 0.01-25 B<G> |
| C806 | 87-010-374-089 | 0E | CAP,E 47-10<G> |
| C807 | 87-010-405-089 | 0E | CAP,E 10-50 SME<G> |
| C808 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G> |
| C809 | 87-010-405-089 | 0E | CAP,E 10-50 SME<G> |
| C810 | 87-010-313-089 | 0E | C-CAP,S 18P-50 CH<G> |

| REF. NO. | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| C811 | 87-010-314-089 | 0E | C-CAP,S 22P-50 CH<G> |
| C812 | 87-010-313-089 | 0E | C-CAP,S 18P-50 CH<G> |
| C813 | 87-010-315-089 | 0E | C-CAP,S 27P-50 CH<G> |
| C814 | 87-010-197-089 | 0E | C-CAP,S 0.01-25 B<G> |
| C815 | 87-010-374-089 | 0E | CAP,E 47-10<G> |
| C816 | 87-010-404-089 | 0E | CAP,E 4.7-50 SME<G> |
| C817 | 87-010-221-089 | 0E | CAP,E 470-10<G> |
| C818 | 87-010-196-089 | 0E | C-CAP,S 0.1-25 F<G> |
| C819 | 87-010-321-089 | 0E | C-CAP,S 82P-50 CH<G> |
| C820 | 87-010-178-089 | 0E | C-CAP,S 1000P-50 B<G> |
| C901 | 87-010-265-049 | 0E | CAP,E 33-16 SME |
| EMI801 | 87-008-474-089 | 0E | F-BEAD,EMI BL02RN1<G> |
| EMI802 | 87-008-474-089 | 0E | F-BEAD,EMI BL02RN1<G> |
| FC1 | 84-ZG1-617-119 | 0E | F-CABLE,4-2.0-110<G> |
| J801 | 87-009-502-010 | 1A | JACK, PIN 1PY EARTH<G> |
| L2 | 87-003-295-089 | 0E | COIL,10UH |
| M601 | 87-045-305-019 | 1E | MOTOR, RF-500TB |
| SFR1 | 87-024-176-089 | 0E | SFR,100K DIA6 V |
| SFR2 | 87-024-171-089 | 0E | SFR 4.7K DIA6 V |
| SW401 | 87-036-109-019 | 0E | SW,PUSH SPPB 61 |

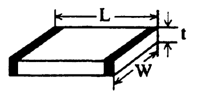
| REF. NO. | PART NO. | カンリ NO. | DESCRIPTION |
|---|---|---|---|
| SW402 | 87-036-109-019 | 0E | SW,PUSH SPPB 61 |
| X101 | 87-030-402-089 | 1B | VIB,XTAL 16.9344 MHZ |
| X801 | 80-JUC-602-080 | 1C | VIB,XTAL 17.73MHZ<G> |
| X802 | 80-JUC-601-080 | 1C | VIB,XTAL 14.31MHZ<G> |
| LED C.B<F,FJ> | | | |
| LED701 | 87-017-350-080 | 0E | LED,SEL1550CM<FJ> |
| LED701 | 87-017-806-010 | 0E | LED,SEL1810DM<F> |
| LED702 | 87-017-733-080 | 0E | LED,SEL1250SM<FJ> |
| LED702 | 87-017-350-080 | 0E | LED,SEL1550CM<F> |
| LED703 | 87-017-733-080 | 0E | LED,SEL1250SM<FJ> |
| LED703 | 87-017-350-080 | 0E | LED,SEL1550CM<F> |
| LED704 | 87-017-350-080 | 0E | LED,SEL1550CM<FJ> |
| LED704 | 87-017-806-010 | 0E | LED,SEL1810DM<F> |
| T-T C.B | | | |
| C401 | 87-018-214-089 | 0E | CAP TC U 0.1-50 F |
| FC401 | 84-ZG1-614-119 | 1A | CABLE FFC 5P-1.25 |
| M401 | 87-045-364-019 | 1D | MOTOR,(BCH3B14) |
| PS401 | 87-026-573-019 | 1B | P-SNSR,GP1S53V |
| MOTOR C.B | | | |
| PIN105 | 91-564-722-110 | 1C | CONNECTOR 6P |
| M020 | 9X-262-513-210 | 2M | SLED MOTOR ASSY |
| SW001 | 91-572-085-110 | 1B | LEAF SW |

○ チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗
Chip resistor

| 容量 Wattage | 種類 Type | 許容誤差 Tolerance | 記号 Symbol | 寸法／Dimensions (mm) | | | | 抵抗コード : A Resistor Code: A |
|---|---|---|---|---|---|---|---|---|
| | | | | 外形／Form | L | W | t | |
| 1／16W | 1608 | ±5% | CJ |  | 1.6 | 0.8 | 0.45 | 108 |
| 1／10W | 2125 | ±5% | CJ | | 2 | 1.25 | 0.45 | 118 |
| 1／8W | 3216 | ±5% | CJ | | 3.2 | 1.6 | 0.55 | 128 |

4ZG-1<G, D, F, FJ, R, V, VI, CR> と共通部分は、下記のページを参照して下さい。
Refer to the following pages for the 4ZG-1<G, D, F, FJ, R, V, VI and CR> and the common sections.

### ■ IC DESCRIPTION

| | |
|---|---|
| LC7872E | 21 ページ参照 |
| | See Page 27 |

### ■ IC BLOCK DIAGRAM

| | |
|---|---|
| TA2058F | 29 ページ参照 |
| LC32464P-80 | See Page 29 |
| TA7291S | 30 ページ参照 |
| | See Page 30 |

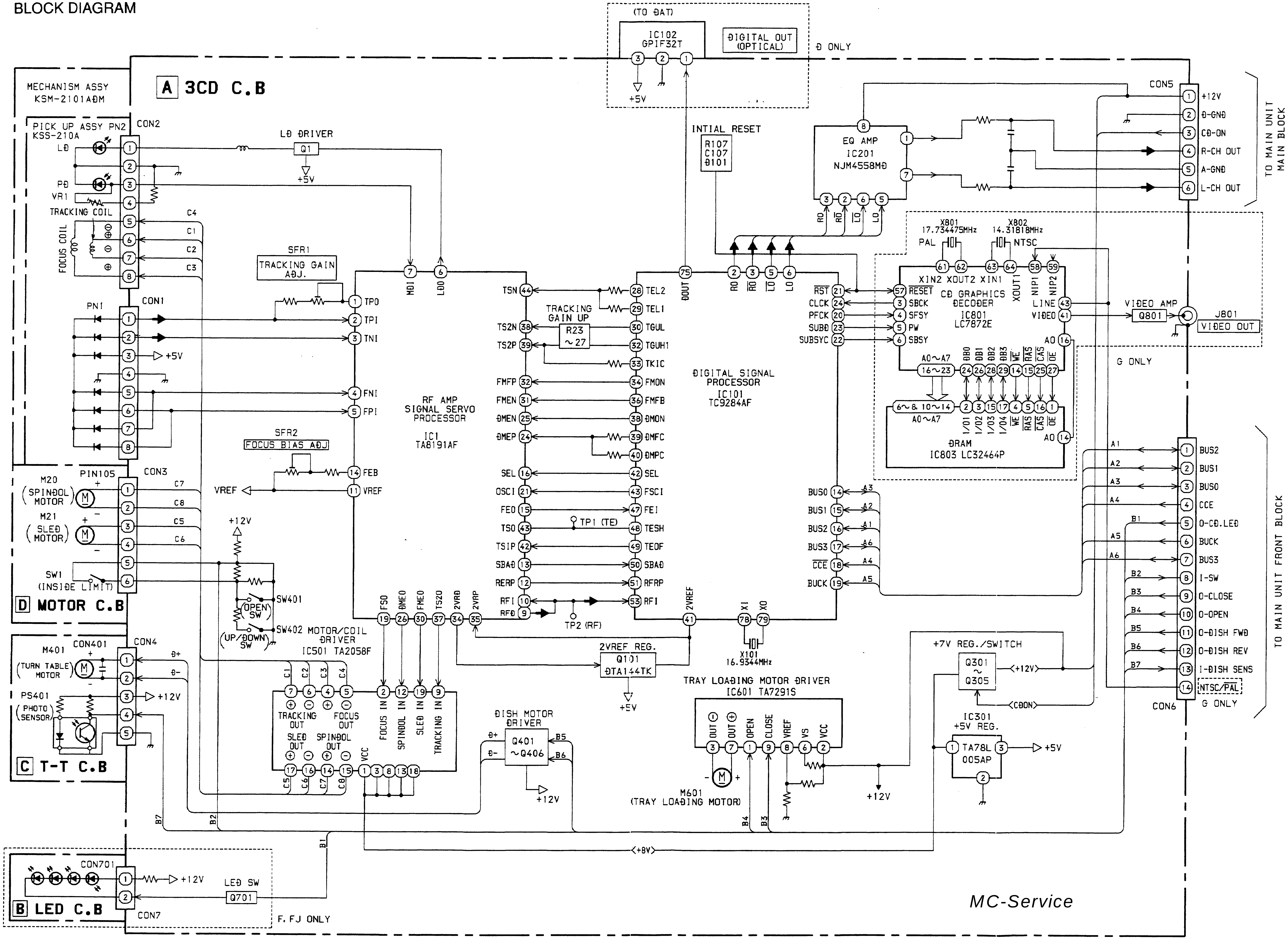
### ■ MECHANICAL EXPLODED VIEW 1／1

38 ページを参照して下さい。
See Page 38.

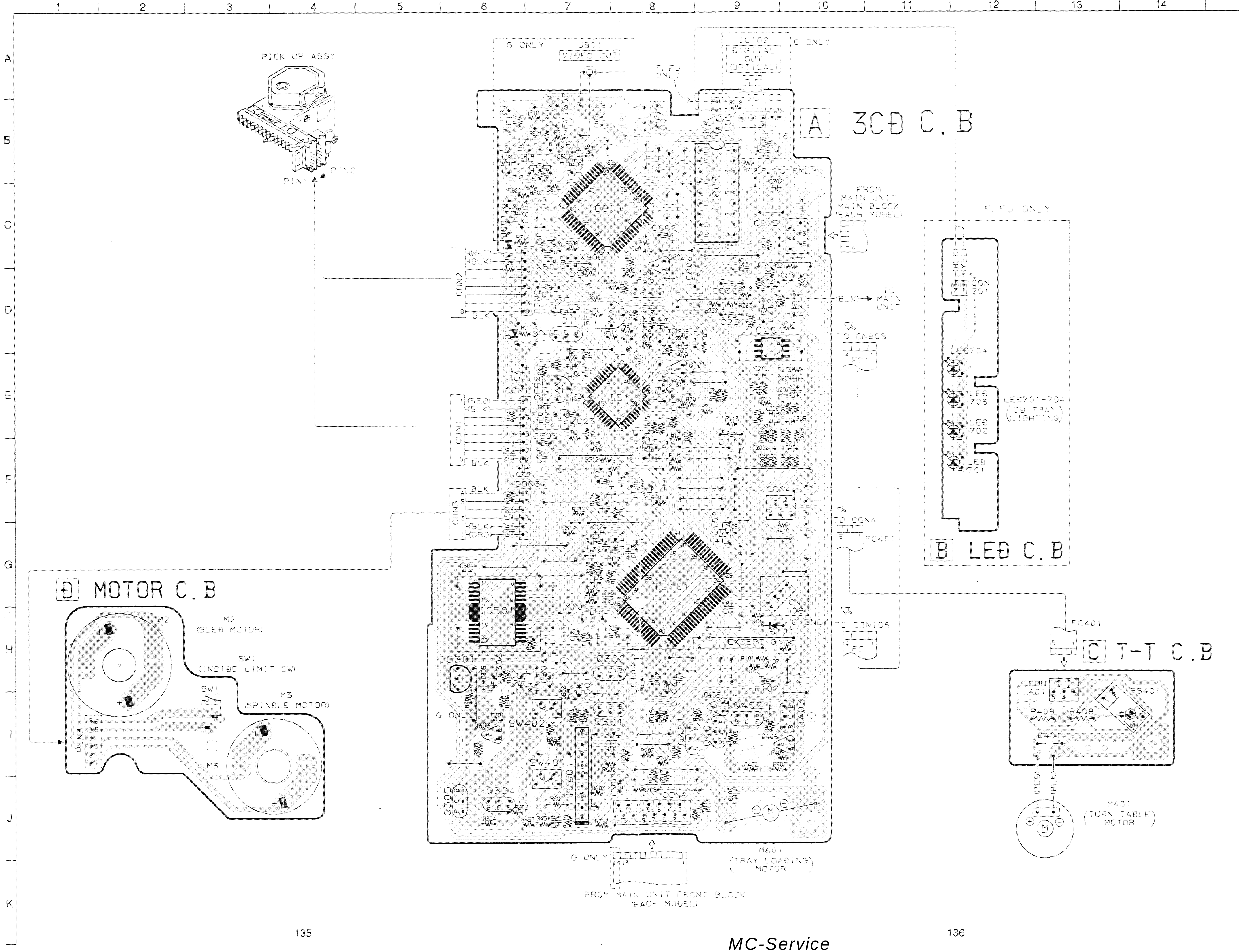
### ■ MECHANICAL PARTS LIST 1／1

39 ページを参照して下さい。
See Page 39.

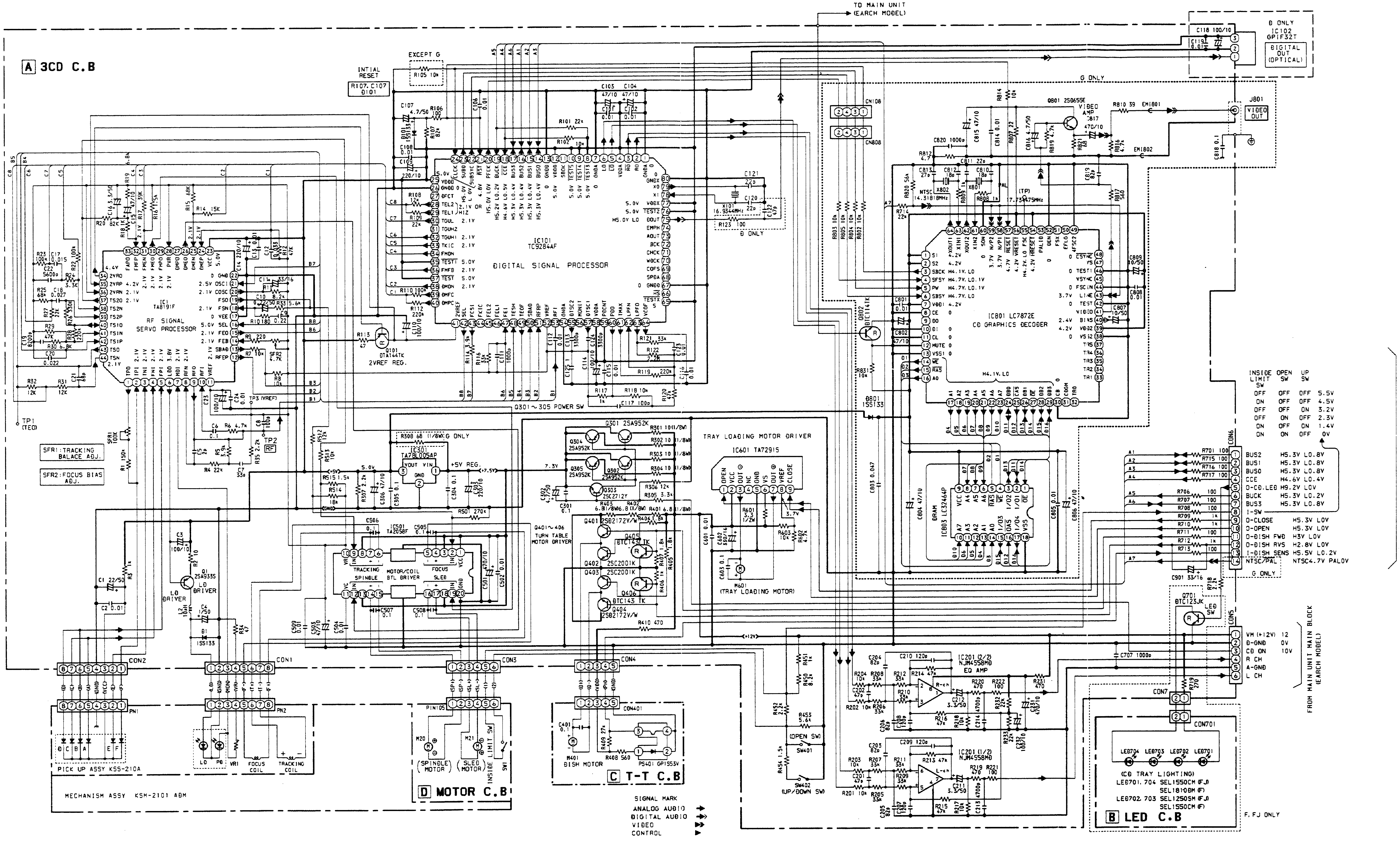
# BLOCK DIAGRAM


(TO DAT)
IC102 GPIF32T
DIGITAL OUT (OPTICAL)
D ONLY
+5V
MECHANISM ASSY KSM-2101ADM
A 3CD C.B
PICK UP ASSY PN2 KSS-210A
LD
PD
VR1
TRACKING COIL
FOCUS COIL
CON2
LD DRIVER
Q1
+5V
C4
C1
C2
C3
SFR1
TRACKING GAIN ADJ.
PN1
CON1
+5V
TP0
TPI
TNI
FNI
FPI
MDI
LDO
SFR2
FOCUS BIAS ADJ
FEB
VREF
RF AMP SIGNAL SERVO PROCESSOR
IC1 TA8191AF
TSN
TS2N
TS2P
FMFP
FMEN
DMEN
DMEP
SEL
OSCI
FEO
TSO
TSIP
SBAD
RERP
RFI
RFO
TRACKING GAIN UP
R23 ~27
TEL2
TEL1
TGUL
TGUH1
TKIC
FMON
FMFB
DMON
DMFC
DMPC
SEL
FSCI
FEI
TESH
TEOF
SBAD
RFRP
RFI
TP1 (TE)
TP2 (RF)
INTIAL RESET
R107 C107 D101
DOUT
RO
RO
LO
LO
DIGITAL SIGNAL PROCESSOR
IC101 TC9284AF
RST
CLCK
PFCK
SUBD
SUBSYC
BUS0
BUS1
BUS2
BUS3
CCE
BUCK
2VREF
XI
XO
X101 16.9344MHz
EQ AMP
IC201 NJM4558MD
CON5
+12V
D-GND
CD-ON
R-CH OUT
A-GND
L-CH OUT
TO MAIN UNIT MAIN BLOCK
X801 17.734475MHz
X802 14.31818MHz
PAL
NTSC
XIN2 XOUT2 XIN1
XOUT1
NIP1
NIP2
RESET
SBCK
SFSY
PW
SBSY
CD GRAPHICS DECODER
IC801 LC7872E
LINE
VIDEO
A0
A0~A7
DB0 DB1 DB2 DB3 WE RAS CAS OE
VIDEO AMP
Q801
J801
VIDEO OUT
G ONLY
A0~A7
I/O1 I/O2 I/O3 I/O4 WE RAS CAS OE
DRAM
IC803 LC32464P
A1
A2
A3
A4
A5
A6
B1
B2
B3
B4
B5
B6
B7
BUS2
BUS1
BUS0
CCE
O-CD.LED
BUCK
BUS3
I-SW
O-CLOSE
O-OPEN
O-DISH FWD
O-DISH REV
I-DISH SENS
NTSC/PAL
CON6
G ONLY
TO MAIN UNIT FRONT BLOCK
M20 (SPINDOL MOTOR)
M21 (SLED MOTOR)
PIN105
CON3
C7
C8
C5
C6
SW1 (INSIDE LIMIT)
D MOTOR C.B
VREF
+12V
SW401
(OPEN SW)
SW402
(UP/DOWN SW)
MOTOR/COIL DRIVER
IC501 TA2058F
TRACKING OUT
FOCUS OUT
SLED OUT
SPINDOL OUT
VCC
FOCUS IN
SPINDOL IN
SLED IN
TRACKING IN
FSO
DMEO
FMEO
TSO
2VRO
2VRP
2VREF REG.
Q101
DTA144TK
+5V
M401 (TURN TABLE MOTOR)
CON401
CON4
D+
D-
PS401 (PHOTO SENSOR)
+12V
C T-T C.B
DISH MOTOR DRIVER
Q401 ~Q406
+12V
TRAY LOADING MOTOR DRIVER
IC601 TA7291S
OUT
OUT
OPEN
CLOSE
VREF
VS
VCC
M601 (TRAY LOADING MOTOR)
+12V
+7V REG./SWITCH
Q301 ~ Q305
(+12V)
(CDON)
IC301 +5V REG.
TA78L 005AP
+5V
(+8V)
CON701
+12V
LED SW
Q701
B LED C.B
CON7
F, FJ ONLY
MC-Service

# WIRING


1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J K
PICK UP ASSY
PIN1
PIN2
G ONLY
J801
VIDEO OUT
F, FJ ONLY
IC102
DIGITAL OUT (OPTICAL)
G ONLY
A 3CD C.B
IC801
IC803
IC1
IC101
IC501
IC301
IC601
CON1
CON2
CON3
CON4
CON5
CON6
(WHT)
(BLK)
(RED)
(ORG)
BLK
FROM MAIN UNIT MAIN BLOCK (EACH MODEL)
(BLK) TO MAIN UNIT
TO CN808
FC1
TO CON4
FC401
TO CON108
CN108
G ONLY
EXCEPT G
F, FJ ONLY
(BLK) (YEL)
CON701
LED704
LED703
LED702
LED701
LED701-704 (CD TRAY LIGHTING)
B LED C.B
D MOTOR C.B
M2 (SLED MOTOR)
SW1 (INSIDE LIMIT SW)
SW1
M3 (SPINDLE MOTOR)
M3
PIN3
SW401
SW402
Q301
Q302
Q303
Q304
Q305
Q401
Q402
Q403
Q404
Q405
Q406
FC401
C T-T C.B
CON401
PS401
R409
R408
C401
(RED) (BLK)
M401 (TURN TABLE MOTOR)
M601 (TRAY LOADING MOTOR)
G ONLY
FROM MAIN UNIT FRONT BLOCK (EACH MODEL)

## SCHEMATIC DIAGRAM


A 3CD C.B
TO MAIN UNIT (EARCH MODEL)
B ONLY
IC102 GP1F32T
DIGITAL OUT (OPTICAL)
G ONLY
J801 VIDEO OUT
Q801 2SD655E VIDEO AMP
INTIAL RESET
EXCEPT G
IC101 TC9284AF
DIGITAL SIGNAL PROCESSOR
IC1 TA8191F
RF SIGNAL SERVO PROCESSOR
IC801 LC7872E
CD GRAPHICS DECODER
IC803 LC32464P
DRAM
Q101 DTA144TK
2VREF REG.
IC301 TA78L005AP
+5V REG.
Q301~305 POWER SW
TRAY LOADING MOTOR DRIVER
IC601 TA7291S
M601 (TRAY LOADING MOTOR)
Q401~406 TURN TABLE MOTOR DRIVER
IC501 TA2058F
TRACKING SPINDLE
MOTOR/COIL BTL DRIVER
FOCUS SLED
Q1 2SA933S
LD DRIVER
SFR1: TRACKING BALACE ADJ.
SFR2: FOCUS BIAS ADJ.
TP1 (TE0)
TP2 (RF)
TP3 (VREF)
IC201 (2/2) NJM4558MD
EQ AMP
IC201 (1/2) NJM4558MD
CON1
CON2
CON3
CON4
CON5
CON6
CON7
CON401
CON701
PN1
PN2
PIN105
PICK UP ASSY KSS-210A
LD
PD
VR1
FOCUS COIL
TRACKING COIL
MECHANISM ASSY KSM-2101 ABM
M20 (SPINDLE MOTOR)
M21 (SLED MOTOR)
INSIDE LIMIT SW
SW1
D MOTOR C.B
M401 DISH MOTOR
PS401 GP1S55V
C T-T C.B
OPEN SW
SW401
SW402 (UP/DOWN SW)
SIGNAL MARK
ANALOG AUDIO
DIGITAL AUDIO
VIDEO
CONTROL
Q701 DTC123JK
LED SW
(CD TRAY LIGHTING)
LED701. 704 SEL1550CM (F.J)
SEL1810BM (F)
LED702. 703 SEL1250SM (F.J)
SEL1550CM (F)
B LED C.B
F. FJ ONLY
INSIDE LIMIT SW
OPEN SW
UP SW
BUS2
BUS1
BUS0
CCE
O-CD.LED
BUCK
BUS3
I-SW
O-CLOSE
O-OPEN
O-DISH FWD
O-DISH RVS
I-DISH SENS
NTSC/PAL
FROM MAIN UNIT FRONT BLOCK (EARCH MODEL)
VM (+12V)
D-GND
CD ON
R CH
A-GND
L CH
FROM MAIN UNIT MAIN BLOCK (EARCH MODEL)

# IC DESCRIPTION

## IC, TA8191F

| 端子番号 | 端子名称 | I/O | 機能説明 |
|---|---|---|---|
| 1 | TPO | O | サブビームI-Vアンプ (TP AMP) 出力端子。 |
| 2 | TPI | I | サブビームI-Vアンプ (TP AMP) 入力端子。 |
| 3 | TNI | I | サブビームI-Vアンプ (TP AMP) 入力端子。 |
| 4 | FNI | I | メインビームI-Vアンプ (FN AMP) 入力端子。 |
| 5 | FPI | I | メインビームI-Vアンプ (FP AMP) 入力端子。 |
| 6 | LDO | O | レーザダイオードアンプ (LD AMP) 出力端子。 |
| 7 | MDI | I | モニタフォトダイオードアンプ (MD AMP) 入力端子。 |
| 8 | RFN | I | RFアンプ (RF AMP) 逆相入力端子。 |
| 9 | RFO | O | RFアンプ (RF AMP) 出力端子。 |
| 10 | RFI | I | RFリップル信号生成回路入力端子。 |
| 11 | VREF | O | 基準電圧出力端子 (+2.1V) |
| 12 | RFRP | O | RFリップル信号出力端子。 |
| 13 | SBAD | O | キズ検出信号出力端子。 |
| 14 | FEB | I | フォーカスエラーバランス調整入力端子。 |
| 15 | FEO | O | フォーカスエラーアンプ (FE AMP) 出力端子。 |
| 16 | SEL | I | アナログスイッチコントロール信号入力端子。 |
| 17 | VEE | — | 電源端子。(TA8190F; -5V TA8191F; GND) |
| 18 | FSN | I | フォーカス出力アンプ (FS AMP) 逆相入力端子。 |
| 19 | FSO | O | フォーカス出力アンプ (FS AMP) 出力端子。 |
| 20 | COSC | O | フォーカスサーチ信号生成用コンデンサ接続端子。 |
| 21 | OSCI | I | フォーカスサーチ信号生成用内蔵電流源コントロール入力端子。 |
| 22 | GND | — | グランド端子。 |
| 23 | VCC | I | 電源端子 (+5V) |
| 24 | DMEP | I | ディスクモータアンプ (DM AMP) 正相入力端子。 |
| 25 | DMEN | I | ディスクモータアンプ (DM AMP) 逆相入力端子。 |
| 26 | DMEO | O | ディスクモータアンプ (DM AMP) 出力端子。 |
| 27 | DMPO | O | ディスクモータ駆動アンプ (DMP AMP) 出力端子。(未使用) |
| 28 | PVR | I | 駆動アンプ基準電圧入力端子。 |
| 29 | FMPO | O | フィードモータ駆動アンプ (FMP AMP) 出力端子。(未使用) |
| 30 | FMEO | O | フィードモータアンプ (FM AMP) 出力端子。 |
| 31 | FMEN | I | フィードモータアンプ (FM AMP) 逆相入力端子。 |
| 32 | FMEP | O | フィードモータアンプ (FM AMP) 正相入力端子。 |
| 33 | FAPO | O | フォーカスアクチュエータ駆動アンプ (FAP AMP) 出力端子。(未使用) |
| 34 | 2VRO | I | 2VREFアンプ (2VREF AMP) 出力端子。 |
| 35 | 2VRP | I | 2VREFアンプ (2VREF AMP) 正相入力端子。 |
| 36 | 2VRN | I | 2VREFアンプ (2VREF AMP) 逆相入力端子。 |
| 37 | TS2O | O | トラッキングサーボアンプ2 (TS2 AMP) 出力端子。 |
| 38 | TS2N | I | トラッキングサーボアンプ2 (TS2 AMP) 逆相入力端子。 |
| 39 | TS2P | I | トラッキングサーボアンプ2 (TS2 AMP) 正相入力端子。 |
| 40 | TS1O | O | トラッキングサーボアンプ1 (TS1 AMP) 出力端子。 |
| 41 | TS1N | I | トラッキングサーボアンプ1 (TS1 AMP) 逆相入力端子。 |
| 42 | TS1P | I | トラッキングサーボアンプ1 (TS1 AMP) 正相入力端子。 |
| 43 | TSO | O | トラッキング出力アンプ (TS AMP) 出力端子。 |
| 44 | TSN | I | トラッキング出力アンプ (TS AMP) 逆相入力端子。 |

## IC, TC9284F

| 端子番号 | 端子名称 | I/O | 機 能 説 明 |
|---|---|---|---|
| 1 | GNDA | — | DA変換部Rチャンネル用アナロググランド端子。 |
| 2 | RO | O | Rチャンネルデータ正転出力端子。 |
| 3 | $\overline{\text{RO}}$ | O | Rチャンネルデータ反転出力端子。 |
| 4 | VDA | — | DA変換部電源端子。 |
| 5 | $\overline{\text{LO}}$ | O | Lチャンネルデータ反転出力端子。 |
| 6 | LO | O | Lチャンネルデータ正転出力端子。 |
| 7 | GNDA | — | DA変換部Lチャンネル用アナロググランド端子。 |
| 8 | $\overline{\text{TEST3}}$ | I | テスト端子。通常“H”またはオープン。 |
| 9 | $\overline{\text{TEST4}}$ | I | テスト端子。通常“H”またはオープン。 |
| 10 | $\overline{\text{TEST5}}$ | I | テスト端子。通常“H”またはオープン。 |
| 11 | SBOK | O | サブコードQデータのCRCC判定結果出力端子。判定結果OKの時“H”。 |
| 12 | VDDD | — | デジタル電源電圧端子。(＋5V) |
| 13 | GNDD | — | デジタルグランド端子。 |
| 14 | BUS0 | I/O | マイコンインタフェース用データ入出力端子。 |
| 15 | BUS1 | I/O | マイコンインタフェース用データ入出力端子。 |
| 16 | BUS2 | I/O | マイコンインタフェース用データ入出力端子。 |
| 17 | BUS3 | I/O | マイコンインタフェース用データ入出力端子。 |
| 18 | $\overline{\text{CCE}}$ | I | マイコンインタフェース用チップイネーブル信号入力端子。“L”の時、BUS3～0がアクティブ。 |
| 19 | BUCK | I | マイコンインタフェース用クロック入力端子。 |
| 20 | PFCK | O | 再生系フレームシンク信号出力端子。 |
| 21 | $\overline{\text{RST}}$ | I | リセット信号入力端子。リセット時“L”。 |
| 22 | SUBSYC | O | サブコードブロックシンク出力端子。サブコードシンクが検出された時、S1の位置で“H”。 |
| 23 | SUBD | O | サブコードP～W出力端子。 |
| 24 | CLCK | I | サブコードP～Wデータ読み出しクロック入力端子。 |
| 25 | VDDD | — | デジタル電源電圧端子。(＋5V) |
| 26 | GNDD | — | デジタルグランド端子。 |
| 27 | DFCT | O | ディフェクト検出信号出力端子。ディフェクト検出時“VREF”通常“HIZ”。 |
| 28 | TEL2 | O | トラッキングゲイン調整用アナログスイッチ出力端子。“VREF”または“HIZ”。 |
| 29 | TEL1 | O | |
| 30 | TGUL | O | トラッキングサーボゲインアップ用アナログスイッチ出力端子。ゲインアップ時と通常再生時の極性はコマンドにより選択可能。 |
| 31、32 | TGUH1、2 | O | トラッキングサーボゲインアップ用アナログスイッチ出力端子。ゲインアップ時“HIZ”、通常は“VREF”。通常再生時はTGUH1、倍速再生時は、TGUH2を使用します。 |
| 33 | TKIC | O | トラッキングアクチュエータキック信号出力端子。NK1CX、CK1CX、トラッキングゲイン調整時のキック用として使用。“2VREF”で外周、“L”で内周方向へキック。通常は“HIZ”。 |
| 34 | FMON | O | フィードサーボオン/オフ用アナログスイッチ出力端子。サーボオン時、“HIZ”オフ時“VREF”。 |

<table>
<tr><th>端子番号</th><th>端子名称</th><th>I/O</th><th>機　能　説　明</th></tr>
<tr><td>35</td><td>$\overline{\text{TEST1}}$</td><td>I</td><td>テスト端子。通常“H”またはオープン。</td></tr>
<tr><td>36</td><td>FMFB</td><td>O</td><td>フィードモータFWD/BWD送り用コントロール信号出力端子。“2VREF”で外周、“L”で内周方向へフィード。通常は“HIZ”。</td></tr>
<tr><td>37</td><td>$\overline{\text{TEST}}$</td><td>I</td><td>テスト端子。通常“H”またはオープン。</td></tr>
<tr><td>38</td><td>DMON</td><td>O</td><td>ディスクモータ駆動回路のゲイン切り替え用アナログスイッチ出力端子。CLVサーボオフ時“HIZ”、オン時は、コマンドにより“HIZ/VREF”を選択可能。</td></tr>
<tr><td>39</td><td>DMFC</td><td>O</td><td>ディスクモータCLVサーボ用AFC信号出力端子。
<table>
<tr><th>動作内容</th><th>コマンド</th><th>DMFC出力</th></tr>
<tr><td>モータ加速時</td><td>DMFK</td><td>“2VREF”</td></tr>
<tr><td>CLVサーボオン時</td><td>DMSV</td><td>AFC信号 (PWM)</td></tr>
<tr><td>モータブレーキ時</td><td>DMBK</td><td>“L”</td></tr>
<tr><td>CLVサーボオフ時</td><td>DMOFF</td><td>“VREF”</td></tr>
</table></td></tr>
<tr><td>40</td><td>DMPC</td><td>O</td><td>ディスクモータCLVサーボ用APC信号出力端子。</td></tr>
<tr><td>41</td><td>2VREF</td><td>—</td><td>アナログ基準電源端子。(“VREF”電圧の2倍)</td></tr>
<tr><td>42</td><td>SEL</td><td>O</td><td>サーボモード指示信号出力端子。レーザダイオード (LD) のオン/オフ、フォーカスサーボのオン/オフをコントロール。
<table>
<tr><th>SEL出力</th><th>LD</th><th>フォーカスサーボ</th><th>動作モード</th></tr>
<tr><td>“L”</td><td>オフ</td><td>オフ</td><td>LDオフ</td></tr>
<tr><td>“HIZ”</td><td>オン</td><td>オフ</td><td>フォーカスサーチ</td></tr>
<tr><td>“H”</td><td>オン</td><td>オン</td><td>フォーカスオン (ノーマルプレイ、etc.)</td></tr>
</table></td></tr>
<tr><td>43</td><td>FCSI</td><td>O</td><td>フォーカスサーチモード時のフォーカスアクチュエータ駆動信号出力端子。“VDDA”でレンズがディスクから遠ざかる方向に駆動、“L”で近づく方向に駆動。通常は“HIZ”。</td></tr>
<tr><td>44</td><td>FKIC</td><td>O</td><td>フォーカスゲイン調整モード時のフォーカスアクチュエータ駆動信号出力端子。“VDDA”でレンズがディスクから遠ざかる方向に駆動、“L”で近づく方向に駆動。通常は“HIZ”。</td></tr>
<tr><td>45、46</td><td>FEL2、1</td><td>O</td><td>フォーカスゲイン調整用アナログスイッチ出力端子。“VREF”または“HIZ”。</td></tr>
<tr><td>47</td><td>FEI</td><td>I</td><td>フォーカスエラー信号入力端子。</td></tr>
<tr><td>48</td><td>TESH</td><td>I</td><td>トラッキングエラー信号サンプルホールド用アナログスイッチ入力端子。</td></tr>
<tr><td>49</td><td>TEOF</td><td>O</td><td>トラッキングサーボ動作オン/オフ用アナログスイッチ出力端子。<br>トラッキングサーボオフ時、“VREF”。</td></tr>
<tr><td>50</td><td>SBAD</td><td>I</td><td>サブビーム加算信号入力端子。</td></tr>
<tr><td>51</td><td>RFRP</td><td>I</td><td>RFリップル信号入力端子。</td></tr>
<tr><td>52</td><td>VREF</td><td>—</td><td>アナログ基準電源端子。</td></tr>
<tr><td>53</td><td>RFI</td><td>I</td><td>RF信号入力端子。</td></tr>
<tr><td>54</td><td>GNDA</td><td>—</td><td>アナロググランド端子。</td></tr>
<tr><td>55</td><td>DTSC2</td><td>O</td><td>データスライスコントロール用EFM信号反転出力端子。</td></tr>
<tr><td>56</td><td>MONI T</td><td>O</td><td>内部信号モニタ用出力端子。コマンドによりEFMO、PLCK、LOCK信号を選択可能。ミュートも可能。</td></tr>
</table>

<table>
<tr><th>端子番号</th><th>端子名称</th><th>I/O</th><th>機能説明</th></tr>
<tr><td>57</td><td>DTSC 1</td><td>O</td><td>データスライスコントロール用EFM信号正転出力端子。</td></tr>
<tr><td>58</td><td>VDDA</td><td>—</td><td>アナログ電源端子。</td></tr>
<tr><td>59</td><td>PDCNT</td><td>I</td><td>PDO出力コントロール端子。“L”でPDO端子を強制的に“HIZ”に固定。“H”で通常出力。</td></tr>
<tr><td>60</td><td>PDO</td><td>O</td><td>EFM信号とPLCK信号との位相誤差信号出力端子。</td></tr>
<tr><td>61</td><td>TMAX</td><td>O</td><td>TMAX検出結果出力端子。
<table>
<tr><th>TMAX検出結果</th><th>TMAX出力</th></tr>
<tr><td>所定周期より長い</td><td>“L”</td></tr>
<tr><td>所定周期より短い</td><td>“2VREF”</td></tr>
<tr><td>所定周期内</td><td>“HIZ”</td></tr>
</table></td></tr>
<tr><td>62</td><td>LPFN</td><td>I</td><td>ローパスフィルタ用アンプ反転入力端子。</td></tr>
<tr><td>63</td><td>LPFO</td><td>O</td><td>ローパスフィルタ用アンプ出力端子。</td></tr>
<tr><td>64</td><td>VCOF</td><td>O</td><td>VCO用フィルタ端子。</td></tr>
<tr><td>65</td><td>TESTX</td><td>I</td><td>テスト端子。通常“H”または“L”。</td></tr>
<tr><td>66</td><td>$\overline{\text{HS}}$</td><td>O</td><td>倍速モード出力端子。通常再生の時“H”、倍速再生の時“L”を出力する。</td></tr>
<tr><td>67</td><td>GNDD</td><td>—</td><td>デジタルグランド端子。</td></tr>
<tr><td>68</td><td>SPDA</td><td>O</td><td>プロセッサステータス信号出力端子。</td></tr>
<tr><td>69</td><td>COFS</td><td>O</td><td>訂正系フレームクロック(7.35kHz)出力端子。</td></tr>
<tr><td>70</td><td>WDCK</td><td>O</td><td>ワードクロック(88.2kHz)出力端子。マイコンコマンドによりSUBQ、BUFOV、IPF信号を選択可能。</td></tr>
<tr><td>71</td><td>CHCK</td><td>O</td><td>チャンネルクロック(44.1kHz)出力端子。Lチャンネルの時“L”、Rチャンネルの時“H”。</td></tr>
<tr><td>72</td><td>BCK</td><td>O</td><td>ビットクロック(1.4112MHz)出力端子。</td></tr>
<tr><td>73</td><td>AOUT</td><td>O</td><td>オーディオデータ出力端子。</td></tr>
<tr><td>74</td><td>EMPH</td><td>O</td><td>エンファシスオン/オフ指示信号出力端子。エンファシスオンの時“H”、オフの時“L”。</td></tr>
<tr><td>75</td><td>DOUT</td><td>O</td><td>デジタルアウト出力端子。</td></tr>
<tr><td>76</td><td>$\overline{\text{TEST2}}$</td><td>I</td><td>テスト端子。通常“H”またはオープン。</td></tr>
<tr><td>77</td><td>VDDX</td><td>—</td><td>水晶発振部電源端子。</td></tr>
<tr><td>78</td><td>XI</td><td>I</td><td>水晶発振子接続端子。(水晶発振周波数16.9344MHz)</td></tr>
<tr><td>79</td><td>XO</td><td>O</td><td>水晶発振子接続端子。(水晶発振周波数16.9344MHz)</td></tr>
<tr><td>80</td><td>GNDX</td><td>—</td><td>水晶発振部グランド端子。</td></tr>
</table>

## IC, TA8191F

| 端子番号 | 端子名称 | I/O | 機能説明 |
|---|---|---|---|
| 1 | TPO | O | サブビームI-Vアンプ (TP AMP) 出力端子。 |
| 2 | TPI | I | サブビームI-Vアンプ (TP AMP) 入力端子。 |
| 3 | TNI | I | サブビームI-Vアンプ (TP AMP) 入力端子。 |
| 4 | FNI | I | メインビームI-Vアンプ (FN AMP) 入力端子。 |
| 5 | FPI | I | メインビームI-Vアンプ (FP AMP) 入力端子。 |
| 6 | LDO | O | レーザダイオードアンプ (LD AMP) 出力端子。 |
| 7 | MDI | I | モニタフォトダイオードアンプ (MD AMP) 入力端子。 |
| 8 | RFN | I | RFアンプ (RF AMP) 逆相入力端子。 |
| 9 | RFO | O | RFアンプ (RF AMP) 出力端子。 |
| 10 | RFI | I | RFリップル信号生成回路入力端子。 |
| 11 | VREF | O | 基準電圧出力端子 (+2.1V) |
| 12 | RFRP | O | RFリップル信号出力端子。 |
| 13 | SBAD | O | キズ検出信号出力端子。 |
| 14 | FEB | I | フォーカスエラーバランス調整入力端子。 |
| 15 | FEO | O | フォーカスエラーアンプ (FE AMP) 出力端子。 |
| 16 | SEL | I | アナログスイッチコントロール信号入力端子。 |
| 17 | VEE | — | 電源端子。(TA8190F; -5V TA8191F; GND) |
| 18 | FSN | I | フォーカス出力アンプ (FS AMP) 逆相入力端子。 |
| 19 | FSO | O | フォーカス出力アンプ (FS AMP) 出力端子。 |
| 20 | COSC | O | フォーカスサーチ信号生成用コンデンサ接続端子。 |
| 21 | OSCI | I | フォーカスサーチ信号生成用内蔵電流源コントロール入力端子。 |
| 22 | GND | — | グランド端子。 |
| 23 | VCC | I | 電源端子 (+5V) |
| 24 | DMEP | I | ディスクモータアンプ (DM AMP) 正相入力端子。 |
| 25 | DMEN | I | ディスクモータアンプ (DM AMP) 逆相入力端子。 |
| 26 | DMEO | O | ディスクモータアンプ (DM AMP) 出力端子。 |
| 27 | DMPO | O | ディスクモータ駆動アンプ (DMP AMP) 出力端子。(未使用) |
| 28 | PVR | I | 駆動アンプ基準電圧入力端子。 |
| 29 | FMPO | O | フィードモータ駆動アンプ (FMP AMP) 出力端子。(未使用) |
| 30 | FMEO | O | フィードモータアンプ (FM AMP) 出力端子。 |
| 31 | FMEN | I | フィードモータアンプ (FM AMP) 逆相入力端子。 |
| 32 | FMEP | O | フィードモータアンプ (FM AMP) 正相入力端子。 |
| 33 | FAPO | O | フォーカスアクチュエータ駆動アンプ (FAP AMP) 出力端子。(未使用) |
| 34 | 2VRO | I | 2VREFアンプ (2VREF AMP) 出力端子。 |
| 35 | 2VRP | I | 2VREFアンプ (2VREF AMP) 正相入力端子。 |
| 36 | 2VRN | I | 2VREFアンプ (2VREF AMP) 逆相入力端子。 |
| 37 | TS2O | O | トラッキングサーボアンプ2 (TS2 AMP) 出力端子。 |
| 38 | TS2N | I | トラッキングサーボアンプ2 (TS2 AMP) 逆相入力端子。 |
| 39 | TS2P | I | トラッキングサーボアンプ2 (TS2 AMP) 正相入力端子。 |
| 40 | TS1O | O | トラッキングサーボアンプ1 (TS1 AMP) 出力端子。 |
| 41 | TS1N | I | トラッキングサーボアンプ1 (TS1 AMP) 逆相入力端子。 |

| 端子番号 | 端子名称 | I/O | 機　能　説　明 |
|---|---|---|---|
| 42 | TS1P | I | トラッキングサーボアンプ1 (TS1 AMP) 正相入力端子。 |
| 43 | TSO | O | トラッキング出力アンプ (TS AMP) 出力端子。 |
| 44 | TSN | I | トラッキング出力アンプ (TS AMP) 逆相入力端子。 |

## IC, TC9284F

| Pin No. | Pin name | I/O | Description |
|---|---|---|---|
| 1 | GNDA | — | D/A converter R-channel analog GND. |
| 2 | RO | O | R-channel data positive output. |
| 3 | $\overline{\text{RO}}$ | O | R-channel data inverted output. |
| 4 | VDA | — | D/A converter power supply. |
| 5 | $\overline{\text{LO}}$ | O | L-channel data inverted output. |
| 6 | LO | O | L-channel data positive output. |
| 7 | GNDA | — | D/A converter L-channel analog GND. |
| 8~10 | $\overline{\text{TEST3}}$~$\overline{\text{TEST5}}$ | I | TEST pin. Normally "H" or open. |
| 11 | SBOK | O | Sub code Q data CRCC judgment result output. Judgment result OK: H |
| 12 | VDDD | — | Digital power supply. (+5 V) |
| 13 | GNDD | — | Digital GND. |
| 14~17 | BUS0~BUS3 | I/O | µprocessor interface, data input/output. |
| 18 | CCE | I | µprocessor interface, chip enable signal input. When "L" : BUS 3~0 are active |
| 19 | BUCK | I | µprocessor interface, clock input. |
| 20 | PFCK | O | PB frame sync output. |
| 21 | $\overline{\text{RST}}$ | I | Reset signal input. "L" at reset. |
| 22 | SUBSYC | O | Sub code block sync output. When sub code is detected,"H" at S1 position. |
| 23 | SUBD | O | Sub code P~W output. |
| 24 | CLCK | I | Sub code P~W data read clock input. |
| 25 | VDDD | — | Digital power supply. (+5 V) |
| 26 | GNDD | — | Digital GND. |
| 27 | DFCT | O | Defect detection signal output. When defect is detected: "VREF", normally "HiZ". |
| 28 | TEL2 | O | Tracking gain adjustment analog switch output. "VREF" , or "HiZ". |
| 29 | TEL1 | O | Tracking gain adjustment analog switch output. "VREF" , or "HiZ". |
| 30 | TGUL | O | Analog switch output for tracking servo gain up. Polarity in gain-up mode and normal mode can be selected by command. |
| 31 | TGUH2 | O | Analog switch output for tracking servo gain up. "HiZ" for gain-up, normally "VREF". TGUH1 during normal playback. TGUH2: not used |
| 32 | TUGH1 | O | |
| 33 | TKIC | O | Tracking actuator kick signal output. NKICx and CKICx are used for kick during tracking gain adjustment. "VREF" for outermost track."O" for moving toward inner track. Normally "HiZ". |
| 34 | FMON | O | Analog switch output to turn ON/OFF the feed servo. "HiZ" to turn ON servo. "VREF" to turn OFF servo. |
| 35 | $\overline{\text{TEST1}}$ | I | TEST pin. Normally "H" or open. |
| 36 | FMFB | O | Feed motor FWD/BWD direction control signal output."2VREF" for outmost track. "O" for moving toward inner track. Normally "HiZ". |
| 37 | $\overline{\text{TEST}}$ | I | TEST pin. Normally "H" or open. |
| 38 | DMON | O | Analog switch output to select gain of the disc motor drive circuit. "HiZ" for CLV servo OFF, "HiZ" or "VREF" can be selected by command. |

<table>
<tr><th>Pin No.</th><th>Pin name</th><th>I/O</th><th>Description</th></tr>
<tr><td>39</td><td>DMPC</td><td>O</td><td>Disc motor CLV servo AFC signal output.
<table>
<tr><th>Operation</th><th>Command</th><th>DMFC output</th></tr>
<tr><td>Motor acceleration</td><td>DMFK</td><td>“2VREF”</td></tr>
<tr><td>CLV servo ON</td><td>DMSV</td><td>AFC signal (PWM)</td></tr>
<tr><td>Motor brake</td><td>DMBK</td><td>“L”</td></tr>
<tr><td>CLV servo OFF</td><td>DMOFF</td><td>“VREF”</td></tr>
</table></td></tr>
<tr><td>40</td><td>DMPC</td><td>O</td><td>Disc motor CLV servo APC signal output.</td></tr>
<tr><td>41</td><td>2VREF</td><td>—</td><td>Analog power supply. (twice the “VREF” voltage)</td></tr>
<tr><td>42</td><td>SEL</td><td>O</td><td>Servo mode select output. It turns ON/OFF the laser diode (LD) and focus servo.
<table>
<tr><th>SEL output</th><th>LD</th><th>Focus servo</th><th>Operating mode</th></tr>
<tr><td>“L”</td><td>OFF</td><td>OFF</td><td>LD OFF</td></tr>
<tr><td>“HiZ”</td><td>ON</td><td>OFF</td><td>Focus search</td></tr>
<tr><td>“H”</td><td>ON</td><td>ON</td><td>Focus ON (normal play)</td></tr>
</table></td></tr>
<tr><td>43</td><td>FCSI</td><td>O</td><td>Focus actuator drive signal output during focus search mode. “VDDA” to move the lens far from disc. “L” to move the lens closer to disc. Normally “HiZ”.</td></tr>
<tr><td>44</td><td>FKIC</td><td>O</td><td>Focus actuator drive signal output during focus adjustment mode.ÅgVDDAÅhto move the lens far from disc. “L” to move the lens closer to disc. Normally “HiZ”.</td></tr>
<tr><td>45, 46</td><td>FEL1, FEL2</td><td>O</td><td>Focus gain adjustment analog switch output. “VREF” or “HiZ”.</td></tr>
<tr><td>47</td><td>FEI</td><td>I</td><td>Focus error signal input.</td></tr>
<tr><td>48</td><td>TESH</td><td>I</td><td>Analog switch input to track error signal sample-and-hold.</td></tr>
<tr><td>49</td><td>TEOF</td><td>O</td><td>Focus gain adjustment analog switch output.“VREF” when tracking servo off.</td></tr>
<tr><td>50</td><td>SBAD</td><td>I</td><td>Sub beam added signal input.</td></tr>
<tr><td>51</td><td>RFRP</td><td>I</td><td>RF ripple signal input.</td></tr>
<tr><td>52</td><td>VREF</td><td>—</td><td>Analog power supply.</td></tr>
<tr><td>53</td><td>RFI</td><td>I</td><td>RF signal input.</td></tr>
<tr><td>54</td><td>GNDA</td><td>—</td><td>Analog GND.</td></tr>
<tr><td>55</td><td>DTSC2</td><td>O</td><td>Data slice control EFM signal inverted output.</td></tr>
<tr><td>56</td><td>MONI T</td><td>O</td><td>Internal signal monitored output. EFMO, PLCK or LOCK signals can be selected by command. Can be muted. (Not used)</td></tr>
<tr><td>57</td><td>DTSC 1</td><td>O</td><td>Data slice control EFM signal positive polarity output.</td></tr>
<tr><td>58</td><td>VDDA</td><td>—</td><td>Analog power supply.</td></tr>
<tr><td>59</td><td>PDCNT</td><td>I</td><td>PDO output control signal input. “L” to fix to “HiZ” forcibly. “H” : normal output.</td></tr>
<tr><td>60</td><td>PDO</td><td>O</td><td>Phase error signal between EFM and PLCK signals is output.</td></tr>
<tr><td>61</td><td>TMAX</td><td>O</td><td>TMAX detected result output.
<table>
<tr><th>TMAX detected result</th><th>TMAX output</th></tr>
<tr><td>Longer than specified cycle</td><td>“L”</td></tr>
<tr><td>Shorter than specified cycle</td><td>“VREF”</td></tr>
<tr><td>Within specified cycle</td><td>“HiZ”</td></tr>
</table></td></tr>
<tr><td>62</td><td>LPFN</td><td>I</td><td>Low-pass filter amplifier inverted input.</td></tr>
</table>

| Pin No. | Pin name | I/O | Description |
|---|---|---|---|
| 63 | LPFO | O | Low-pass filter amplifier output. |
| 64 | VCOF | O | VCO filter output. |
| 65 | TESTX | I | TEST pin. Normally “H” or “L” .(Connected to +5 V) |
| 66 | $\overline{\text{HS}}$ | O | Double speed mode output. “H” : normal speed. “L” : double speed |
| 67 | GNDD | — | Digital GND. |
| 68 | SPDA | O | Processor status signal output. |
| 69 | COFS | O | Correction circuit frame clock (7.35 kHz) output. |
| 70 | WDCK | O | Word clock (88.2 kHz) output. SUBQ, BUF0V or 1PF can be selected by the µprocessor command. (Not used) |
| 71 | CHCK | O | Channel clock (44.1 kHz) output. “L”for L-channel. “H” for R-channel. |
| 72 | BCK | O | Bit clock (1.4112 MHz) output. |
| 73 | AOUT | O | Audio data output. (Not used) |
| 74 | EMPH | O | Emphasis ON/OFF select signal. “H” : emphasis ON. “L” for emphasis OFF |
| 75 | DOUT | O | DIGITAL SIGNAL output. |
| 76 | $\overline{\text{TEST2}}$ | I | TEST pin. Normally “H”. |
| 77 | VDDX | — | Crystal oscillator circuit power supply. |
| 78 | XI | I | External crystal oscillator is connected. (Crystal oscillator frequency 16.9344 MHz) |
| 79 | XO | O | External crystal oscillator is connected. (Crystal oscillator frequency 16.9344 MHz) |
| 80 | GNDX | — | Crystal oscillator GND. |

## TEST MODE

1. CDテストモードの起動方法

ファンクションCDの釦を押しながら、ACプラグを挿入する。
上記によりFL表示管が全て点灯し、テストモードが起動します。

2. CDテストモードの解除方法

下記のいずれか1つの操作で解除します。

- ファンクション釦を押す　・パワーSW釦を押す。
  (CDファンクション釦以外)　・ACプラグを抜く。

3. CDテストモードの機能説明

テストモード起動後、各操作釦を押す事により次のNo1～No5の各モード機能が使用できます。

| Mode/No. | 操作 | FL表示 | 動作 | 内容 |
|---|---|---|---|---|
| スタートモード<br>No.1 | 起動 | 全灯表示 | ● TEST MODE起動 | ● FL表示確認 (全灯) |
| サーチモード<br>No.2 | ■ 釦 | CD-- | ● LASER DIODE常時発光<br>(CDブロック電源ON)<br>● 連続フォーカスサーチ<br>(PUレンズがフルスイングを繰り返す)<br>* 10分以上の連続フォーカスは避けて下さい。 *注1 | ● APC回路確認<br>● レーザー電流測定<br>(レーザー電流コントロール、トランジスタのエミッターGND間の抵抗の両端。)<br>FOCUS SERVO<br>● フォーカスラッチ波形確認<br>● フォーカスエラー波形確認<br>(サーチモードではFOK/FZCは監視せず。) |
| プレイモード<br>No.3 | ◀▶ 釦 | CD 1 | ● 通常再生<br>● TOC READ出来ない場合<br>フォーカスサーチを続行 *注1 | FOCUS SERVO/TRACKING SERVO<br>CLV SERVO/SLED SERVO<br>FOK/FZC確認 |
| トラバースモード<br>No.4 | ❚❚ 釦 | CD 1 | ● DISC通常再生中<br>1回押す トラッキングサーボ OFF<br>2回押す トラッキングサーボ ON *注2 | TRACKING SERVO ON/OFF<br>トラッキングバランス (トラバース) 調整 |
| スレッドモード<br>No.5 | ⏮ 釦<br>⏭ | 全灯表示 | ● ピックアップ外周へ移動<br>● ピックアップ内周へ移動 *注3<br>(再生中は通常動作致します) | SLED SERVO<br>SLED メカ動作確認 |

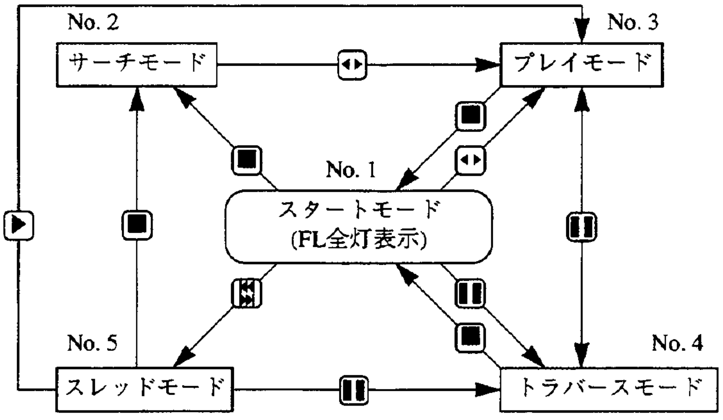
*注1 フォーカスサーチを連続して10分以上動作し続けるとドライバーICが発熱し保護回路が働く為、トラッキングサーボがかからない状態となる場合が有ります。この様な場合には、電源を切り約10分間放熱後、再スタートして下さい。

*注2 「❚❚」状態で、「⏮」または「⏭」釦を押さない事。「❚❚」状態解除後、再生出来なくなります。「❚❚」状態で、「⏮」または「⏭」釦を押した場合には「■」釦を押しスタートモード (No.1) に戻して下さい。

*注3 ピックアップが最内周、最外周の位置でも「⏮」または「⏭」釦を押している間はスレッドモータが回転する為、ギヤ破損に注意して下さい。

4. 操作概要

下図の様にスタートモードから、矢印方向の流れで各モードの操作が行えます。モード変更は、下図の流れに従い行って下さい。



尚、DISC DIRECT PLAY釦を押した場合には、上図のPLAY釦を押した時と同様の動作となります。またプレイモード／トラバースモード時にopen/close釦により、トレイをopenさせた場合には、スタートモードに戻ります。

1. How to Activate CD Test Mode
   Insert the AC plug while pressing the function CD button.
   All FL display tubes will light up, and the test mode will be activated.

2. How to Cancel CD Test Mode
   Either one of the following operations will cancel the CD test mode.
   - Press the function button. (except CD function button)
   - Press the power switch button.
   - Disconnect the AC plug

3. CD Test Mode Functions
   When test mode is activated, the following mode functions from No.1 to No.5 can be used by pressing the operation keys.

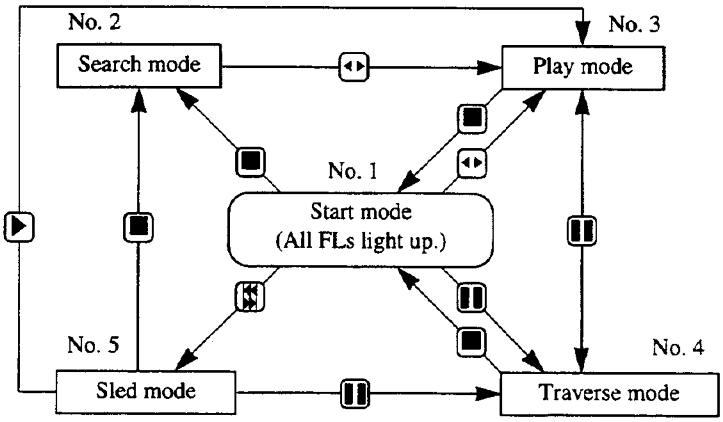
| Mode/No. | Operation | FL display | Operation | Contents |
|---|---|---|---|---|
| Start mode<br>No.1 | Activation | All lamps light | • Test mode is activated. | • FL display check (All displays light.) |
| Search mode<br>No.2 | ■ key | CD-- | • Laser diode turns always ON. (CD block power is ON.)<br>• Continual focus search (The pickup lens repeats the full-swing up-down motion.)<br>* Avoid continual searches that last for more than 10 minutes.<br>* NOTE 1 | • APC circuit check<br>• Laser current measurement (Laser current control. Across a resistor connected between emitter and GND.)<br>FOCUS SERVO<br>• Check focus search waveform<br>• Check focus error waveform (FOK/FZC are not monitored in the search mode) |
| Play mode<br>No.3 | ◀▶ key | CD 1 | • Normal playback<br>• Focus search is continued if TOC cannot be read.<br>* NOTE 1 | FOCUS SERVO/TRACKING SERVO<br>CLV SERVO/SLED SERVO<br>Check FOK/FZC |
| Traverse mode<br>No.4 | ❚❚ key | CD 1 | • During normal disc playback<br>Press once; tracking servo OFF<br>Press twice; tracking servo ON<br>* NOTE 2 | TRACKING SERVO ON/OFF<br>Tracking balance (traverse) adjustment |
| Sled mode<br>No.5 | ⏮ key<br>⏭ | All lamps light | • Pickup moves to the outermost track<br>• Pickup moves to the innermost track<br>* NOTE 3<br>(During playback, machine operates normally.) | SLED SERVO<br>Check SLED mechanism operation |

* NOTE 1: There are cases when the tracking servo cannot be locked owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.

* NOTE 2: Do not press the ⏮ or ⏭ keys when the machine is in the ❚❚ status is active. If they are pressed, playback will not be possible after the ❚❚ status has been canceled. If the ⏮ or ⏭ keys are pressed in the ❚❚ status, press the ■ key and return to the start mode (No.1).

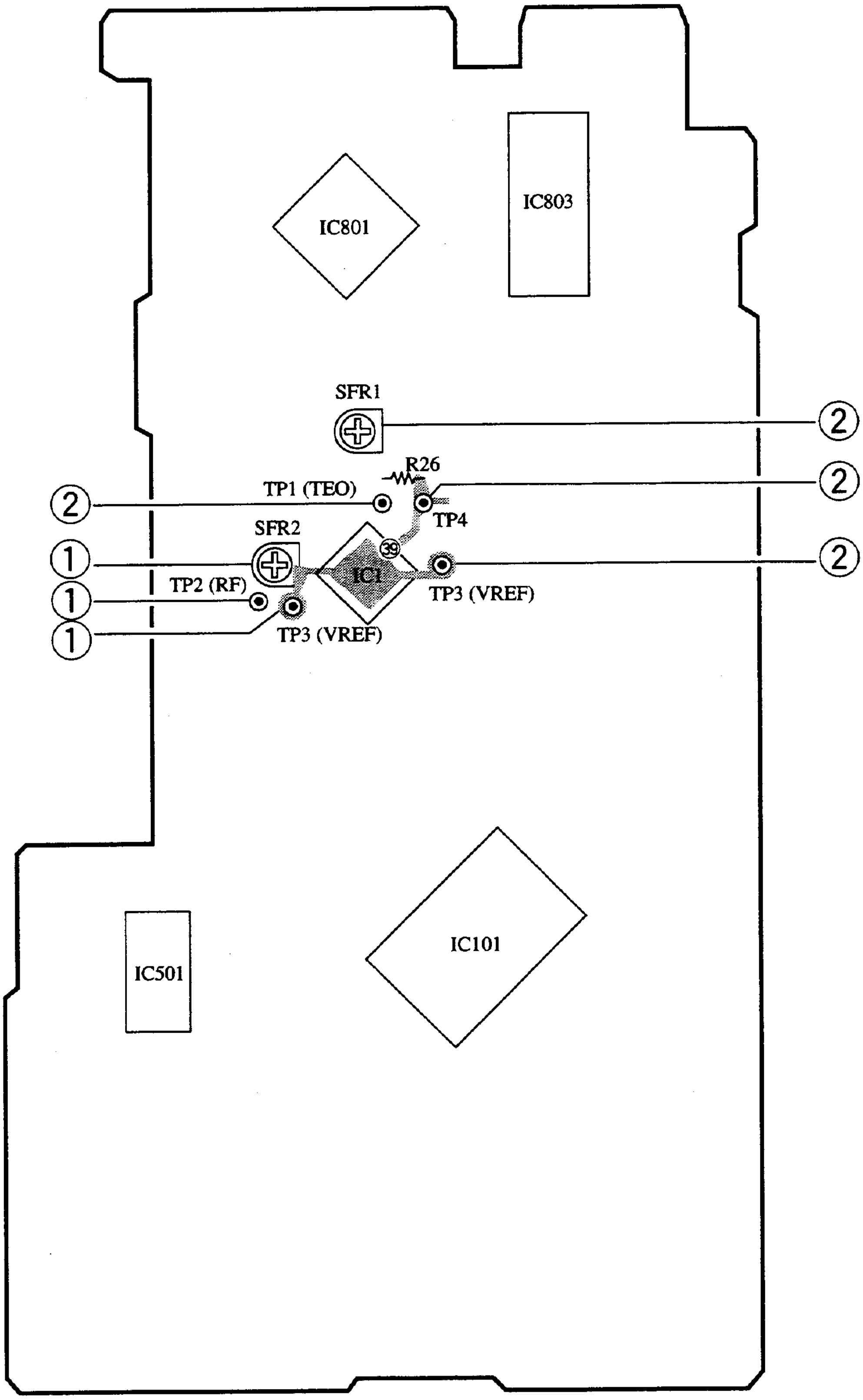
* NOTE 3: When pressing the ⏮ or ⏭ keys, take care to avoid damage to the gears. Because the sled motor is activated when the ⏮ or ⏭ keys are pressed, even when the pick-up is at the outermost or innermost track.

4. Operation Outline
   The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.



If the DISC DIRECT PLAY button is pressed, the machine performs the same operation as the PLAY button is pressed as shown. If the tray is opened by pressing OPEN/CLOSE button during Play mode or Traverse mode, the machine returns to the Start mode.

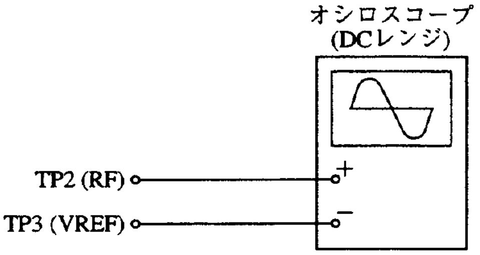
## A 3CD C.B


IC801
IC803
SFR1
②
R26
TP1 (TEO)
②
②
TP4
SFR2
①
IC1
39
②
TP2 (RF)
①
TP3 (VREF)
①
TP3 (VREF)
IC101
IC501

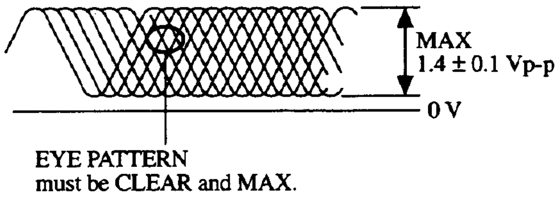
注意：・(10：1) のプローブを接続して、調整して下さい。
・各調整には、オシロスコープの ⊖ 側を TP3 (VREF) に接続して下さい。

1. フォーカスバイアス調整

この調整は、光学系ブロックを交換修理した場合に調整すること。

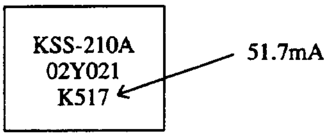

オシロスコープ
(DCレンジ)
TP2 (RF)
TP3 (VREF)
+
−

1) テストポイント TP2 (RF)、TP3 (VREF) にオシロスコープを接続する。
2) POWER スイッチを ON にする。
3) テストディスク TCD-782 (YEDS-18) を入れて 2 曲目を PLAY させる。
4) オシロスコープの波形の振幅が最大となり、かつ中央のひし形が、鮮明になるように SFR2 を調整する。


MAX
1.4 ± 0.1 Vp-p
0 V
EYE PATTERN
must be CLEAR and MAX.

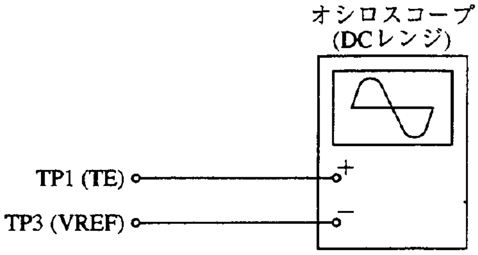
VOLT/DIV : 0.5V
TIME/DIV : 1 μS

注意：　レーザー電流の確認は R2 (10 Ω の両端電圧) で行えます。レーザーピックアップの裏側のラベルの電流値に対して ± 6.0mA に入っていること。

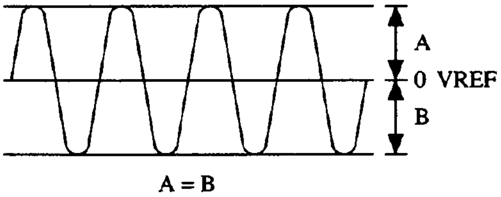

KSS-210A
02Y021
K517
51.7mA

$$\text{レーザー電流Iop} = \frac{\text{R2の両端電圧}}{10\Omega}$$

2. トラッキング・バランス調整


オシロスコープ
(DCレンジ)
TP1 (TE)
TP3 (VREF)
+
−

1) TP3 (VREF) と TP4 の間をショートする。
2) テストポイント TP1 (TE)、TP3 (VREF) にオシロスコープを接続する。
3) POWER スイッチを ON にする。
4) テストディスク TCD-782 (YEDS-18) を入れて、▶PLAY 状態にする。
5) オシロスコープのトラバース波形が、下図のように上下対称になるように SFR1 を調整する。
6) 調整が完了したら、テストポイント TP3 (VREF) 及び TP4 からリード線をはずす。

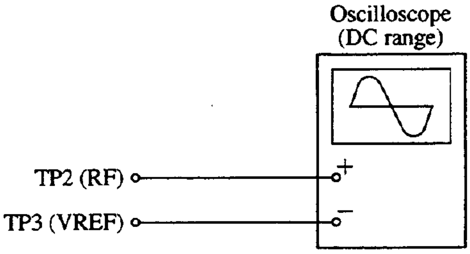


VOLT/DIV : 200mV
TIME/DIV : 1mS

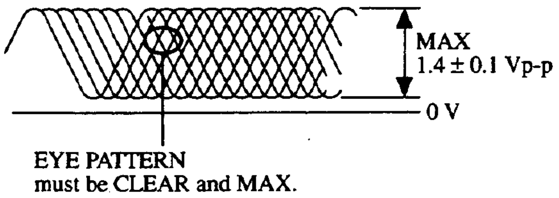
**Note:**
- Connect a probe (10: 1) of the oscilloscope or the frequency counter to a test point.
- During adjustment, connect (⊖) pin of an oscilloscope to TP3 (VREF).

1. Focus Bias Adjustment

Make the focus bias adjustment when replacing and repairing the optical block.

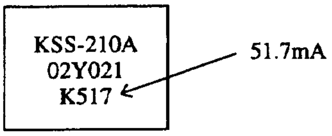


1) Connect an oscilloscope to test points TP2 (RF) and TP3 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and play back the second program.
4) Adjust SFR2 so that RF signal of the test point TP2 (RF) is MAX and CLEARREST.



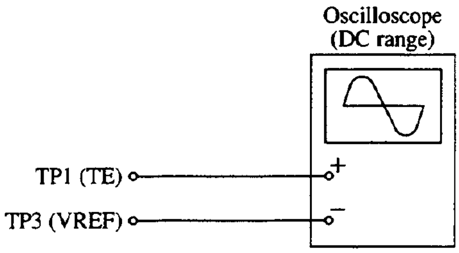
VOLT/DIV : 0.5V
TIME/DIV : 1μS

**Note :** The current of the laser signal can be checked with the voltages on both sides of R2 (voltage across 10Ω).
The difference for the specified value shown on the label must be within ± 6.0mA.

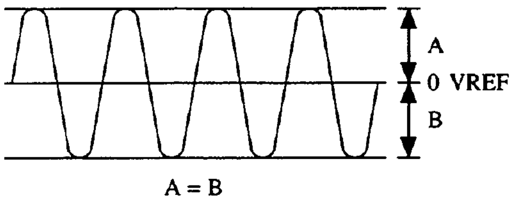


$$\text{Laser current Iop} = \frac{\text{Voltage across R2}}{10\Omega}$$

2. Tracking Balance Adjustment



1) Short circuit between TP3 (VREF) and TP4.
2) Connect an oscilloscope to test points TP1 (TE) and TP3 (VREF).
3) Turn on the power switch.
4) Insert test disc TCD-782 (YEDS-18) and press the PLAY (▶) button.
5) Adjust SFR1 so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.
6) After the adjustment is completed, remove the connected lead wires from the test point TP3 (VREF) and TP4.



VOLT/DIV : 200mV
TIME/DIV : 1mS

# USE MODEL LIST

ACD-630

CX-N400 (NSX-400)
CX-N4000 (NSX-4000)
CX-N5100 (NSX-5100)
CX-N520 (NSX-520)
CX-N5200 (NSX-5200)

CX-N5250 (NSX-5250)
CX-N540 (NSX-540)
CX-N550G (NSX-550G)
CX-N999 (NSX-999
CX-NAP1MK2 (NSX-AP1MK2)

CX-NAV700 (XG-V700)
CX-NAV800 (NSX-AV800)
CX-NAV90 (NSX-AV90)
CX-NAV900 (NSX-AV900)
CX-NK600D (NSX-K600D)

CX-NK80 (NSX-K80)
CX-NK90 (NSX-K90)
CX-NK900D (NSX-K900D)
CX-NV1000 (NSX-V1000)
CX-NV20 (NSX-V20)

CX-NV21 (NSX-V21)
CX-NV30 (NSX-V30)
CX-NV31G (NSX-V31G)
CX-NV33 (NSX-V33)
CX-NV50 (NSX-V50)

CX-NV51 (NSX-V51)
CX-NV51G (NSX-V51G)
CX-NV54 (NSX-V54)
CX-NV70 (NSX-V70)
CX-NV71G (NSX-V71G)

CX-NV72 (NSX-V72)
CX-NV800/NV8000/NV8080 (NSX-V800/V8000/V8080)
CX-NV90 (NSX-V90)
CX-NV91G (NSX-V91G)
CX-SN1000V (XG-1000V)

CX-SN303 (XG-303)
CX-SN363 (XG-363)
CX-SN400 (XG-400)
CX-SN410G (XG-410G)
CX-SN420G (XG-420G)

CX-SN520 (XG-520)
CX-SN530G (XG-530G)
CX-SN999 (XG-999)
CX-SN999G (XG-999G)
CX-SNV28 (XG-V28)

CX-SNV30G (XG-V30G)
CX-SNV40F (XG-V40F)
CX-SNV50 (XG-V50)
CX-SNV50G (XG-V50G)
CX-SNV60D (XG-V60G)

CX-SNV70G (XG-V70G)
CX-SZ650 (XS-Z650)
CX-SZ650 (XS-Z650)
CX-SZ675 (XS-Z675)
CX-SZ675G (XS-Z675G)

CX-SZ790 (XS-Z790)
CX-Z1600 (Z-1600)
CX-Z1601 (Z-1601)
CX-Z1800 (Z-1800)
CX-Z1890 (Z-1890)

CX-Z1900 (Z-1900)
CX-Z1950 (Z-1950)
CX-Z2300 (Z-2300)
CX-Z650 (Z-650)
CX-Z670 (Z-670)

CX-Z675 (Z-675)
CX-Z690 (Z-690)
CX-Z790 (Z-790)
CX-Z795 (Z-795)
CX-Z799 (Z-799)

CX-ZK5000D (Z-K5000D)
CX-ZK8000D (Z-K8000D)
FD-N757 (NSX-656)
FD-NH80 (NSX-H80)
FD-NH90 (NSX-H90)

FD-SN636 (NSX-D636)
FD-SN757 (NSX-D757)
FD-SN760G (NSX-760G)
FD-SNH8 (NSX-H8)
FD-SNH9 (NSX-H9)

VX-C14V1
VX-C14VDP1

# REFERENCE NAME LIST

## ELECTRICAL SECTION

| DESCRIPTION | REFERENCE NAME |
|---|---|
| ANT | ANTENNAS |
| C- | CHIP |
| C-CAP | CAP, CHIP |
| C-CAP TN | CAP, CHIP TANTALUM |
| C-COIL | COIL, CHIP |
| C-DI | DIODE, CHIP |
| C-DIODE | DIODE, CHIP |
| C-FET | FET, CHIP |
| C-FOTR | FILTER, CHIP |
| C-JACK | JACK, CHIP |
| C-LED | LED, CHIP |
| C-RES | RES, CHIP |
| C-SFR | SFR, CHIP |
| C-SLIDE SW | SLIDE SWITCH, CHIP |
| C-SW | SWITCH, CHIP |
| C-TR | TRANSISTOR, CHIP |
| C-VR | VOLUME, CHIP |
| C-ZENER | ZENER, CHIP |
| CAP, CER | CAP, CERA-SOL |
| CAP, E | CAP, ELECT |
| CAP, M/F | CAP, FILM |
| CAP, TC | CAP, CERA-SOL |
| CAP, TC-U | CAP, CERA-SOL SS |
| CAP, TN | CAP, TANTALUM |
| CERA FIL | FILTER, CERAMIC |
| CF | FILTER, CERAMIC |
| DL | DELAY LINE |
| E/CAP | CAP, ELECT |
| FILT | FILTER |
| FLTR | FILTER |
| FUSE RES | RES, FUSE |
| MOT | MOTOR |
| P-DIODE | PHOTO DIODE |
| P-SNSR | PHOTO SENSER |
| P-TR | PHOTO TRANSISTOR |
| POLY VARI | VARIABLE CAPACITOR |
| PPCAP | CAP, PP |
| PT | POWER TRANSFORMER |
| PTR, RES | PTR, MELF |
| RC | REMOTE CONTROLLER |
| RES NF | RES, NON-FLAMMABLE |
| RESO | RESONATOR |
| SHLD | SHIELD |
| SOL | SOLENOID |
| SPKR | SPEAKER |
| SW, LVR | SWITCH, LEVER |
| SW, RTRY | SWITCH, ROTARY |
| SW, SL | SWITCH, SLIDE |
| TC CAP | CAP, CERA-SOL |
| THMS | THERMISTOR |
| TR | TRANSISTOR |
| TRIMMER | CAP, TRIMMER |
| TUN-CAP | VARIABLE CAPACITOR |
| VIB, CER | RESONATOR, CERAMIC |
| VIB, XTAL | RESONATOR, CRYSTAL |
| VR | VOLUME |
| ZENER | DIODE, ZENER |
| サージサプレッサ | SERGESUPPRESSOR |
| セラコン | CAP,CERA |

## MECHANICAL SECTION

| DESCRIPTION | REFERENCE NAME |
|---|---|
| ADHESHIVE | SHEET ADHESHIVE |
| AZ | AZIMUTH |
| BAR-ANT | BAR-ANTENNA |
| BAT | BATTERY |
| BATT | BATTERY |
| BRG | BEARING |
| BTN | BUTTON |
| CAB | CABINET |
| CASS | CASSETTE |
| CHAS | CHASSIS |
| CLR | COLLAR |
| CONT | CONTROL |
| CRSR | CURSOR |
| CU | CUSHION |
| CUSH | CUSHION |
| DIR | DIRECTION |
| DUBB | DUBBING |
| FL | FRONT LOADING |
| FLY-WHL | FLYWHEEL |
| FR | FRONT |
| FUN | FUNCTION |
| G-CU | G-CUSHION |
| HDL | HANDOL |
| HIMERON | CLOTH |
| HINGE, BAT | HINGE, BATTERY |
| HLDR | HOLDER |
| HT-SINK | HEAT SINK |
| IB | INSTRUCTION BOOKLET |
| IDLE | IDLER |
| IND, L-R | INDICATOR, L-R |
| KEY, CONT | KEY, CONTROL |
| KEY, PRGM | KEY, PROGRAM |
| KNOB, SL | KNOB, SLIDE |
| LBL | LABEL |
| LID, BATT | LID, BATTERY |
| LID, CASS | LID, CASSETTE |
| LVR | LEVER |
| P-SP | P-SPRING |
| PANEL, CONT | PANEL, CONTROL |
| PANEL, FR | PANEL, FRONT |
| PRGM | PROGRAM |
| PULLY, LOAD MO | PULLY, LOAD MOTOR |
| RBN | RIBBON |
| S- | SPECIAL |
| SEG | SEGMENT |
| SH | SHEET |
| SHLD-SH | SHIELD-SHEET |
| SL | SLIDE |
| SP | SPRING |
| SP-SCREW | SPECIAL-SCREW |
| SPACER, BAT | SPACER, BATTERY |
| SPR | SPRING |
| SPR-P | P-SPRING |
| SPR-PC-PUSH | P-SPRING, C-PUSH |
| T-SP | T-SPRING |
| TERM | TERMINAL |
| TRIG | TRIGGER |
| TUN | TUNING |
| VOL | VOLUME |
| W | WASHER |
| WHL | WHEEL |
| WORM-WHL | WORM-WHEEL |
| ジグアーム | ARM,SHAFT |
| ジグガイド | GUIDE,SHAFT |
| ストラップ | STRAP |
| トクナベ | S-SCREW |
| ヒンジ | HINGE |
| ヒンジビス | S-SCREW |
| ビスセレート | SCREW,SERRART |